

CA20N
EAB
-0 53

EA-90-01

ENVIRONMENTAL ASSESSMENT BOARD



ONTARIO HYDRO DEMAND/SUPPLY PLAN HEARINGS

VOLUME: 150

DATE: Monday, May 25, 1992

BEFORE:

HON. MR. JUSTICE E. SAUNDERS	Chairman
DR. G. CONNELL	Member
MS. G. PATTERSON	Member

EARR
ASSOCIATES &
REPORTING INC.

(416) 482-3277

2300 Yonge St. Suite 709 Toronto, Canada M4P 1E4.



Digitized by the Internet Archive
in 2022 with funding from
University of Toronto

<https://archive.org/details/31761114681232>

ENVIRONMENTAL ASSESSMENT BOARD
ONTARIO HYDRO DEMAND/SUPPLY PLAN HEARING

IN THE MATTER OF the Environmental Assessment Act,
R.S.O. 1980, c. 140, as amended, and Regulations
thereunder;

AND IN THE MATTER OF an undertaking by Ontario Hydro
consisting of a program in respect of activities
associated with meeting future electricity
requirements in Ontario.

Held on the 5th Floor, 2200
Yonge Street, Toronto, Ontario,
Monday, the 25th day of May,
1992, commencing at 10:00 a.m.

VOLUME 150

B E F O R E :

THE HON. MR. JUSTICE E. SAUNDERS	Chairman
DR. G. CONNELL	Member
MS. G. PATTERSON	Member

S T A F F :

MR. M. HARPUR	Board Counsel
MR. R. NUNN	Counsel/Manager, Information Systems
MS. C. MARTIN	Administrative Coordinator
MS. G. MORRISON	Executive Coordinator

A P P E A R A N C E S

B. CAMPBELL	)	ONTARIO HYDRO
L. FORMUSA)	
B. HARVIE)	
J.F. HOWARD, Q.C.)	
J. LANE)	
G. A. KARISH)	
J.C. SHEPHERD	)	IPPSO
I. MONDROW)	
J. PASSMORE)	
R. WATSON	)	MUNICIPAL ELECTRIC
A. MARK	)	ASSOCIATION
S. COUBAN	)	PROVINCIAL GOVERNMENT
P. MORAN	)	AGENCIES
J. MacDONALD)	
C. MARLATT	)	NORTH SHORE TRIBAL COUNCIL,
D. ESTRIN	)	UNITED CHIEFS AND COUNCILS
H. DAHME	)	OF MANITOULIN, UNION OF
		ONTARIO INDIANS
D. POCH	)	COALITION OF ENVIRONMENTAL
D. STARKMAN	)	GROUPS
D. ARGUE)	
T. ROCKINGHAM		MINISTRY OF ENERGY
B. KELSEY	)	NORTHWATCH
L. GREENSPOON)	
P. McKay)	
J.M. RODGER		AMPCO
M. MATTSON	)	ENERGY PROBE
T. McCLENAGHAN)	
A. WAFFLE		ENVIRONMENT CANADA
M. CAMPBELL	)	PUBLIC HEALTH COALITION
		(OPHA, IICPA)
G. GRENVILLE-WOOD		SESCI

A P P E A R A N C E S
(Cont'd)

D. ROGERS		ONGA
H. POCH	)	CITY OF TORONTO
J. PARKINSON)	
R. POWER		CITY OF TORONTO, SOUTH BRUCE ECONOMIC CORP.
S. THOMPSON		ONTARIO FEDERATION OF AGRICULTURE
B. BODNER		CONSUMERS GAS
J. MONGER	)	CAC (ONTARIO)
K. ROSENBERG)	
C. GATES)	
W. TRIVETT		RON HUNTER
M. KLIPPENSTEIN		POLLUTION PROBE
N. KLEER	)	NAN/TREATY #3/TEME-AUGAMA
J. OLTHUIS	)	ANISHNABAI AND MOOSE RIVER/
J. CASTRILLI	)	JAMES BAY COALITION
T. HILL		TOWN OF NEWCASTLE
M. OMATSU	)	OMAA
B. ALLISON)	
C. REID)	
E. LOCKERBY		AECL
C. SPOEL	)	CANADIAN VOICE OF WOMEN
U. FRANKLIN	)	FOR PEACE
B. CARR)	
F. MACKESY		ON HER OWN BEHALF
D. HUNTER	)	DOFASCO
M. BADER)	
B. TAYLOR	)	MOOSONEE DEVELOPMENT AREA
D. HORNER	)	BOARD AND CHAMBER OF
H. WATSON	)	COMMERCE

A P P E A R A N C E S
(Cont'd)

T. HEINTZMAN	)	ATOMIC ENERGY OF CANADA
D. HAMER)	
C. FINDLAY)	
P.A. NYKANEN	)	CANADIAN MANUFACTURERS ASSOCIATION - ONTARIO
G. MITCHELL		SOCIETY OF AECL PROFESSIONAL EMPLOYEES
S. GOUDGE		CUPE
D. COLBORNE		NIPIGON ABORIGINAL PEOPLES' ALLIANCE
R. CUYLER		ON HIS OWN BEHALF
L. BULLOCK	)	CANADIAN NUCLEAR ASSOCIATION
L. CHAN)	
R. MATSUI)	

I N D E X o f P R O C E E D I N G S

	<u>Page No.</u>
<u>AMIR SHALABY,</u> <u>JOHN KENNETH SNELSON,</u> <u>JANE BERNICE TENNYSON,</u> <u>FREDERICK GEORGE LONG,</u> <u>BRIAN PAUL WILLIAM DALZIEL,</u> <u>HELEN ANNE HOWES; Resumed.</u>	26459
Direct Examination by Mr. Howard	26459
Decision	26481
Cross-Examination by Mr. Mark	26485

L I S T o f E X H I B I T S

<u>No.</u>	<u>Description</u>	<u>Page No.</u>
685	Reference Material to be used in MEA Panel 10 Cross-Examination.	26575

L I S T o f U N D E R T A K I N G S

<u>No.</u>	<u>Description</u>	<u>Page No.</u>
684.1	Ontario Hydro undertakes to provide the frequency and duration reliability study of the managed surplus nuclear update case.	26545
684.2	Ontario Hydro undertakes to provide breakdown of approval costs by option and by year contained in Exhibit 542D.	26564
684.3	Ontario Hydro undertakes to recalculate costs under Case B of Exhibit 452D using dates contained on page 42 of Exhibit 685.	26574

TIME NOTATIONSPage No.

	10:04 a.m.	-----	26458
	10:15 a.m.	-----	26465
	10:26 a.m.	-----	26471
Recess	10:39 a.m.	-----	26481
Resume	11:30 a.m.	-----	26481
	11:45 a.m.	-----	26489
	12:03 p.m.	-----	26502
	12:25 p.m.	-----	26516
	12:45 p.m.	-----	26527
Luncheon Recess	1:00 p.m.	-----	26537
Resume	2:30 p.m.	-----	26537
	2:50 p.m.	-----	26547
	3:10 p.m.	-----	26558
	3:29 p.m.	-----	26571
Recess	3:38 p.m.	-----	26577
Resume	3:56 p.m.	-----	26577
	4:10 p.m.	-----	26585
	4:30 p.m.	-----	26598
Adjourned	4:45 p.m.	-----	26608

1 ---Upon commencing at 10:04 a.m.

2 THE REGISTRAR: Come to order. This
3 hearing is now in session. Please be seated.

4 THE CHAIRMAN: Good morning, Mr. Howard.

5 As a result of a question to the witness
6 Panel No. 9 by Ms. McClenaghan, Ontario Hydro has
7 provided clarification of material in Exhibit 520.12,
8 which is a response to Interrogatory 9.2.44. For the
9 purpose of our records, that response has been appended
10 to the original response to interrogatories. There
11 will not be a new number for that.

12 Mr. Howard?

13 MR. HOWARD: Mr. Chairman, I should
14 explain that I am here because the timetable has
15 overtaken an extremely important personal commitment of
16 long standing of Mr. Campbell, and he asked me to
17 finish off the evidence-in-chief. I call it the
18 EIPCLS. He's gone fishing, but he couldn't change it.
19 He probably froze over the weekend. [Laughter]

20 I think he advised that we would be about
21 10 minutes, and what we would propose to do now is
22 review and summarize for the Board the main features of
23 the Update.

1 AMIR SHALABY,
2 JOHN KENNETH SNELSON,
3 JANE BERNICE TENNYSON,
4 FREDERICK GEORGE LONG,
5 BRIAN PAUL WILLIAM DALZIEL,
6 HELEN ANNE HOWES; Resumed.

7 DIRECT EXAMINATION BY MR. HOWARD:

8 Q. Mr. Snelson, could you first begin by
9 outlining the basis from which the Update developed?

10 MR. SNELSON: A. Yes. The Update was
11 developed based on the demand/supply planning strategy,
12 and in particular the priority strategic directions
13 that we alluded to in our opening evidence.

14 Based on that and the new load forecast
15 that has been developed - and you have the new
16 information with respect to that - the new load
17 forecast takes into account -- that is, the load
18 forecast update takes into account revised economic
19 growth, revised electricity price predictions, and, as
20 Mr. Shalaby indicated, that results in a level of basic
21 load which is very close to the projection in the 1989
22 Demand/Supply Plan.

23 Then, in planning to meet that basic load
24 we followed our strategic directions, and the
25 difference between the basic load and the existing
26 system is defined as being the requirements for demand
27 and supply, and we tried to make the most use we could

1 of the existing system, which is consistent with our
2 priority strategic direction, to maximize the use of
3 the existing system, including the effects of life
4 extension which show up late in the Plan period.

5 Now, if I can have the overhead.

6 Q. This is Exhibit 682, page 119?

7 A. That is correct. Then the top
8 right-hand very dark slice is fossil life extensions,
9 which responds to the priority strategic direction of
10 maximizing the use of the existing system.

11 Then if we go through the other priority
12 strategic directions, the demand management potential,
13 which is shown in this figure as the light shaded
14 segment at the bottom, labelled "Electricity Savings",
15 then the Plan follows the strategy and makes maximum
16 use of the demand management savings, which Panel 4
17 testified could be achieved, and Panel 4 indicated that
18 was the maximum that we could reasonably rely upon, and
19 that meets a large part of the demand and supply
20 requirement over the planning period.

21 The next planning strategic direction is
22 to make maximum use of economic and non-utility
23 generation, particularly from renewables and
24 cogeneration, and that is shown as the second segment
25 from the bottom in this graph.

1 And with some adjustments for surplus
2 management it shows the maximum potential that Panel 5
3 indicated being fully used before the requirement for
4 major supply in around 2009 or so.

5 In addition, the plan relies upon more
6 non-utility generation as part of the response
7 portfolio that may be available with short lead time
8 and would probably be mostly major supply non-utility
9 generation.

10 The next priority strategic direction is
11 to have an orderly program for the development of the
12 hydroelectric potential, and Panel 6 indicated that the
13 attainable potential was 1,400 to 1,800 megawatts, and
14 the development of most of that potential is shown in
15 this figure as the fourth slice from the bottom, which
16 is a light coloured slice actually shown above the
17 Manitoba Purchase, and that uses the full potential,
18 except for some adjustments for surplus management.

19 The Plan makes use of the Manitoba
20 Purchase on schedule in all cases, and that is the dark
21 slice third from the bottom.

22 Then there is, we believe, still a
23 requirement for major supply starting around 2009, and
24 our priority strategic direction is to keep the options
25 open for major supply so that they will be available,

1 if needed, when the preferred options have been fully
2 used to delay and reduce the need for major supply.

3 As we have indicated in our evidence, we
4 don't believe that that need is a choice to be made
5 now, and we don't believe that we need approvals within
6 the next five years. Now, that is provided we carry on
7 with all the more preferred options.

8 This plan, as I have indicated, is fully
9 consistent with the strategic directions that have
10 guided our planning since the creation of the
11 Demand/Supply Plan in 1989.

12 Q. Then, as a result, what approvals
13 does Ontario Hydro require from the process in order to
14 implement the plan that you have described?

15 A. We require approval for a range of
16 hydroelectric capacity and energy. We believe the
17 range of capacity should be 1,400 to 1,800 megawatts
18 and the associated energy is about 3,500 gigawatthours.

19 The implications of seeking a requirement
20 and rationale approval are defined in Exhibit 360,
21 which was discussed during the scoping of Panel 6, and
22 included in that approval we believe we need the
23 approval for the requirement and rationale for the
24 radial transmission associated with that hydroelectric
25 potential.

1 The other approval that we need is the
2 requirement and rationale for the transmission
3 associated with the Manitoba Purchase, and that has to
4 run from the Manitoba border to a suitable point in
5 Northeastern Ontario.

6 Q. Then, what about other aspects of the
7 plan?

8 A. Well, we are not seeking specific
9 approvals of other aspects to the plan. We do believe
10 that the plan in its totality provides the necessary
11 context for the consideration of the specific approvals
12 requested.

13 Q. Now, then, can you just summarize for
14 us the reasons you are seeking hydroelectric approvals
15 as you have described?

16 A. There are four main reasons, and I
17 will enumerate them.

18 The first one is to contribute to meeting
19 the capacity and energy needs over a 25-year period for
20 Ontario, and in considering that we have considered a
21 range of load growth possibilities both above and below
22 the median.

23 The second main reason is to take
24 advantage of Ontario's economic, renewable, indigenous
25 energy resources.

1 The third reason is to respond to
2 provincial government policy direction, and we have
3 specific policy direction covering most of the
4 attainable potential.

5 The fourth reason is to add to the
6 diversity and flexibility of the plan.

7 I believe that Wednesday I indicated that
8 without the hydroelectric Manitoba Purchase the plan
9 depends quite heavily on demand management and
10 non-utility generation, much of which is gas, and the
11 hydroelectric and Manitoba protect against low results
12 from demand management or higher prices from gas or
13 higher load, all of which could contribute to making
14 the other options less attractive.

15 We recognize that hydroelectric
16 developments have impacts on the local areas where they
17 would be built and that the evidence at Panel 6 we
18 believe has shown that we have processes for addressing
19 and balancing the local impacts and the benefits.

20 Q. Then, could you deal next, please,
21 with the Manitoba transmission approvals which are
22 being sought?

23 A. In this case, there are three
24 reasons.

25 The first reason is to incorporate the

1 Manitoba Purchase, and that is a signed contract
2 supported by the provincial government. Like the
3 hydroelectric options it contributes to meeting
4 Ontario's capacity and energy needs over the planning
5 period.

6 It also allows the development of an
7 economic, Canadian, renewable energy resource, and like
8 the hydroelectric options it adds to the diversity of
9 the plan in much the same way.

10 [10:15 a.m.]

11 The second reason why we seek approval of
12 the Manitoba transmission is that it provides better
13 integration within the Ontario Hydro system. There is
14 a long-term improvement in the operation of the system,
15 it provides increased capability for economic
16 scheduling of generation, it provides improved security
17 to supply of load, particularly in Northwestern
18 Ontario, and there is also a long-term improvement in
19 planning flexibility.

20 There is a reduced chance that
21 electricity supply will constrain economic development
22 in Northwestern Ontario. There is an ability to
23 accommodate growth in electrical load on short notice,
24 as it might occur during periods of high growth, and
25 over the long run there is an ability to choose

1 economic options with reduced constraints of a small
2 system.

3 And the third reason for seeking approval
4 of the Manitoba transmission is that it provides
5 opportunities for improved integration between the
6 Ontario system and systems to the west of Ontario.

7 The federal and provincial governments
8 have supported strengthening of east/west ties in
9 Canada. The Northwestern Ontario to Manitoba segment
10 and the Northeastern Ontario to Northwestern Ontario
11 segments are both critical weak links in those cross
12 Canada connections.

13 The sorts of opportunities that they
14 create were quite obviously the Manitoba Purchase,
15 which we have already signed, it's an example of the
16 opportunity that can occur.

17 In addition, there is the use of the
18 additional capacity beyond the 1,000 megawatt purchase
19 during the contract period, and there is the use of the
20 full transmission capability beyond the contract period
21 because the transmission has a life that extends well
22 beyond the contract period.

23 And again, we recognize that construction
24 of transmission lines and continued operation have
25 impacts on the local areas that are crossed, and that

1 Panel 7 discussed those specific impacts and the
2 benefits and the disbenefits of such things and
3 discussed how they could be managed.

4 So, just finally, and this is a point
5 that applies both to the Manitoba Purchase and to the
6 hydroelectric transmission, it's a point that tends to
7 be overlooked, that is that both of these types of
8 facilities we are seeking approval of are long-term
9 improvements to the energy infrastructure and in
10 particular the electricity infrastructure of the
11 Province of Ontario, and they provide benefits that
12 continue many decades beyond the period that has been
13 studied in detail, measured in transmission line having
14 a life perhaps of 50 years, hydroelectric stations
15 having lives of the order of 80 to 100 years. So these
16 are long-term improvements to the infrastructure of the
17 province.

18 MR. HOWARD: Mr. Chairman, that's the
19 evidence in chief of this panel.

20 I can't help but observing that we were
21 less than 15 days of actual hearing time, which is some
22 25 per cent less than our original estimate of 20 to 21
23 days, and I hope everyone does the same thing with
24 their estimates of evidence.

25 I am sure the panel would welcome

1 questions from the Board and from my friends.

2 THE CHAIRMAN: Well, in the spirit of
3 your exhortation, there will be no questions from the
4 Panel. [Laughter]

5 I guess that brings us to Mr. Mark.

6 MR. MARK: Puts me in the spotlight,
7 doesn't it.

8 Mr. Chairman, just at the outset, there
9 is a matter of disputed interrogatories. I have spoken
10 to Ms. Morrison about them, I alerted her to factors
11 outstanding. I don't know whether you want to deal
12 with them now.

13 THE CHAIRMAN: I am not anxious to deal
14 with them at any time, but if we have to deal with
15 them, we will deal with them.

16 MR. MARK: I am ready to speak to them
17 now.

18 THE CHAIRMAN: That will be fine.
19 Perhaps I could look at the questions.

20 The interrogatories in dispute I take it
21 are 10.9.106 and 10.9.107?

22 MR. MARK: That's correct.

23 THE CHAIRMAN: Could I just take a moment
24 to read them?

25 MR. MARK: Sure.

1 ---Off the record.

2 THE CHAIRMAN: Okay, Mr. Mark.

3 MR. MARK: Thank you, Mr. Chairman.

4 As you will have gathered from reading
5 the interrogatories, Mr. Chairman, the concern on this
6 issue goes to the planning process and the way in
7 which, and manner in which, and by whom, and the timing
8 of the decisions which are now reflected before the
9 Board in the Update.

10 It comes I am sure as no secret to the
11 Board that there are amongst the intervenors those who
12 have some large questions about the planning process,
13 the decision-making process, which underlies the Update
14 and the evidence which is now before the Board in
15 support of that Update.

16 The purpose of these interrogatories, Mr.
17 Chairman, as is evident from them, I think, was to get
18 some further detail in the form, preferably, of
19 documentation on the record, which would inform us
20 somewhat more as to the nature of that decision-making
21 process, the timing of it and the matters that I spoke
22 of a moment ago.

23 The reference to the board of directors,
24 Mr. Chairman, is important in my view because that is
25 ultimately where the corporate decision regarding the

1 acceptability of the Update as the preferred plan in
2 this hearing was made. This Board is entitled to know,
3 in my submission, exactly what criteria were considered
4 by this decision-making body at Ontario Hydro and what
5 information was put before that board of directors.

6 As I will get to shortly, but you may
7 recall from my submissions back in March on the scoping
8 hearing, the integrity of the decision-making process
9 is very much a concern for this Board and something
10 that has to be had regard to when you come to decide
11 whether to accept the environmental assessment or not.
12 In my submission, Mr. Chairman, there could be no more
13 central question in that inquiry than what was told to
14 the decision-making body at Ontario Hydro on the basis
15 of what information did they accept the Update and what
16 criteria did they apply to that decision.

17 Now, in the DSP we had a full, a full
18 explanation, at times repetitious, of the process and
19 procedures at Ontario Hydro internally which resulted
20 in the selection of the Demand/Supply Plan. We had the
21 description of the planning process, the iterative
22 nature, the different steps or inputs that went into
23 the models at each of the four phases of the process,
24 of how the candidate plans were selected, the
25 application of them to the strategy, and we were told

1 dates in all instances.

2 THE CHAIRMAN: Just to stop you there.
3 Did you have all internal correspondence, memoranda or
4 the communication including minutes of meetings that
5 you are asking for in 106, or the documents that were
6 furnished to the board of directors that you are asking
7 for in 107, at the DSP level?

8 MR. MARK: At the DSP level, I was going
9 to come to the scope of the interrogatory. We don't
10 have necessarily all internal correspondence,
11 memoranda, et cetera.

12 In phrasing the interrogatory, Mr.
13 Chairman, the problem we have frequently is that we are
14 not sure what there is.

15 As I have told counsel for Ontario Hydro,
16 since delivering the interrogatory, I am quite happy to
17 have some discussion with the view towards narrowing
18 that down once I am somewhat informed as to the nature
19 of the documentation which does exist, and that's a
20 cooperative process which frequently goes on, Mr.
21 Chairman, and if there is some direction from this
22 Panel, that some response to the interrogatory should
23 be forthcoming, then I am confident that we can
24 accomplish that.

25 [10:26 a.m.]

1 With respect to the board of directors,
2 Mr. Chairman, I am not sure if that exact package is
3 filed before you in the form of an exhibit. Suffice it
4 to say that based upon all the material in the DSP and
5 otherwise filed and our own knowledge of that process
6 which comes from outside this hearing we were satisfied
7 that we had fair information as to what was before the
8 board of directors with respect to the original DSP and
9 on what criteria that decision was made. We are unable
10 to say the same thing with respect to the Update.

11 With respect to the question of the
12 planning process, Mr. Chairman, I would like, if I may,
13 to refer you again to an authority I referred to back
14 in the March motion. It is a Decision of this Board in
15 the Meaford case in 1990.

16 I have taken the liberty, Mr. Chairman,
17 of providing you with an excerpt from that Decision.
18 It is rather lengthy. I haven't reproduced it in its
19 entirety, but I have with respect to the relevant
20 issue.

21 The question there, Mr. Chairman, was a
22 selection of a waste site or a site for a waste
23 facility, and the intervenors and the Ministry
24 contended that the planning process which the proponent
25 had gone through in making the selection was

1 insufficient, that it amounted in essence, I think in
2 the words suggested, to selecting of the preferred site
3 without much of a process and then developing the
4 rationale and justification afterwards. The Board was
5 called upon to consider whether the environmental
6 assessment document could be accepted in that
7 circumstance.

8 The relevant portion, Mr. Chairman,
9 begins -- if I could have you turn to the top of page
10 29 dealing with the position taken by one of the
11 intervenors, it states:

12 Apple took the position that the
13 rational planning process is fundamental
14 to the Environmental Assessment Act in
15 that the process leading to the selection
16 of the preferred alternative must be
17 rational, systematic, consistent and
18 traceable.

19 Apple contended that a proponent
20 cannot select the undertaking and
21 thereafter backfill the choice by way of
22 comparative evaluation.

23 And I would note those words, Mr. Chairman: rational,
24 systematic, consistent and traceable.

25 And at the bottom of the page the Board

1 quotes from another Decision of the Board, the North
2 Simcoe case, which was also a waste facility site, and
3 if I could direct you to the latter portion of the
4 quote at the bottom of the page:

5 The Board finds that the environmental
6 assessment is unsatisfactory because the
7 requirements of Section 5(3) have not
8 been met. A process or planning or
9 methodology is implicit in that section
10 and further it should be reasonable.

11 And lastly, Mr. Chairman, if I could have
12 you turn to page 30 where the Board makes its
13 conclusions on this issue, the middle page, the middle
14 paragraph under the heading 2.1.3, it says:

15 The Act requires an evaluation of the
16 advantages and disadvantages to the
17 environment of the undertaking and its
18 alternatives. In the Board's view, the
19 requirement for such an evaluation
20 implies that prior to the selection of
21 the preferred alternative a planning
22 process will have taken place. At a
23 minimum, the planning process will entail
24 the establishment of criteria for the
25 identification and evaluation of

1 alternatives and the assessment of the
2 relevant importance of the criteria so as
3 to establish an evaluation framework.

4 Without such planning an acceptable
5 evaluation cannot be done. That is
6 because if such planning is not done
7 prior to the selection of the preferred
8 alternative the evaluation cannot be
9 fair.

10 What will invariably happen is that
11 after the alternative is selected the
12 criteria will be established and
13 prioritized and the evaluations will be
14 carried out, consciously or not, to
15 achieve the result that the undertaking
16 selected is the best one.

17 Now, Mr. Chairman, in my submission what
18 those passages highlight is the critical importance of
19 looking in detail at the decision-making process before
20 the presentation of the preferred option, and even if
21 the proponent puts before you evaluations today which
22 may or may not justify the Plan the details of how
23 those criteria were selected and how they were replied
24 is of paramount importance.

25 That is the purpose of these

1 interrogatories, Mr. Chairman, to get on the record for
2 examination those procedures, the selection of the
3 criteria. And some examples perhaps: Where did the
4 impetus from the Update come from; what direction was
5 given; what feedback there was; when various criteria
6 were selected; and the basis upon which senior
7 management, and in turn the board of directors,
8 accepted the Update. What criteria did they apply in
9 their assessment of the matter?

10 Mr. Chairman, as I said before, this is
11 no trivial issue now with respect to the Update. There
12 is a real issue regarding that planning process and
13 decision-making process at Ontario Hydro, and for those
14 reasons in our submission it is apt, and indeed
15 important, to have on the record the documentation
16 which reflects in detail that decision-making process.

17 Those are my submissions.

18 THE CHAIRMAN: Thank you. Any questions?

19 THE REGISTRAR: Mr. Chairman, are these
20 two interrogatories to be numbered?

21 THE CHAIRMAN: No, they don't need to be
22 numbered for this. They are not Panel 10 evidence.
23 They are separate from that.

24 THE REGISTRAR: Thank you.

25 MR. HOWARD: Mr. Chairman, I have three

1 points in response.

2 The first is that the planning process is
3 clearly relevant to these hearings, but that the
4 criteria were first established in 1985, are the
5 subject of extensive written evidence, have been the
6 subject of extensive oral evidence by this panel in the
7 application of the planning strategies.

8 Secondly, clearly while the planning
9 process is relevant the decision-making process of a
10 corporation of the size of Hydro is not.

11 What this Board has before it is the
12 result of the decision-making process, there are six
13 witnesses who have spoken to it, and if my friend wants
14 to look into the timing, the criteria which have been
15 spoken to, these witnesses are fully capable of
16 responding to those questions.

17 Finally, I guess, I would have thought
18 that the evidence before this Board fully complied with
19 the conclusion at page 30 of the case to which my
20 friend has referred. The planning process has been
21 described, and if he believes that there was a prior
22 selection of what is the preferred alternative these
23 are six of the people of the many, many, many people at
24 Hydro who were involved in that process.

25 It would be unreasonable for anyone to

1 assume that of all the people involved there was from
2 the beginning unanimous conclusions as to the result.
3 The result you have before you, these witnesses are
4 here to speak to it. In my submission, the material
5 and the detail requested is totally irrelevant and
6 totally unnecessary to the issues before the Board.

7 Thank you.

8 THE CHAIRMAN: Any reply submissions, Mr.
9 Mark?

10 MR. MARK: Briefly, Mr. Chairman.

11 With respect to Mr. Howard's last point
12 where he characterized our concern as one that there
13 was some, as I understand it, unanimous agreement at
14 the outset and the Plan followed, that is not the
15 purpose of the motion, nor is that the suggestion.

16 We simply want to understand the planning
17 process that went into this document which was
18 prepared, everyone will agree, over a very short time
19 period.

20 Nobody is necessarily suggesting that
21 there was a decision made in October and something then
22 produced simply for the purpose of reflecting that
23 initial decision, but to the extent that we want to
24 enquire into that planning process -- and that is
25 independent of the question of whether there was some

1 predetermined direction.

2 With respect to Mr. Howard's point that
3 the witnesses are fully capable of responding, Mr.
4 Chairman, I would respectfully suggest that this is a
5 matter where the parties are entitled to the existing
6 documentation on those matters in the corporation.

7 It is an important one. Even if the
8 witnesses were to give certain answers their
9 documentation would be requested. In my submission, we
10 should be entitled to that, preferably in advance of
11 cross-examination. It is not acceptable in my view
12 simply to answer that the witnesses can answer. That
13 doesn't disentitle one to the documentation underlying.

14 Lastly, Mr. Chairman, Mr. Howard said the
15 corporation's planning process is relevant, but he said
16 the decision-making process is quite irrelevant.

17 In my submission, Mr. Chairman, that is
18 just not an acceptable position. Surely, the
19 decision-making process, what happened and what was
20 told to, relied upon, and considered by the
21 decision-makers in making their decision is relevant.

22 Maybe the planners have one view; maybe
23 the board of directors decided on the Update for a
24 completely different reason. I can't conceive that
25 this Board is not entitled to know the rationale for

1 the Update as gleaned by the directing minds of the
2 corporation.

3 THE CHAIRMAN: But the material you have
4 requested won't help you in that respect. I mean, what
5 you are asking for is what was given to the board of
6 directors.

7 MR. MARK: Yes.

8 THE CHAIRMAN: You are never going to
9 find out, and it is impossible to find out, what
10 motivated the directors to take the decision that they
11 did.

12 MR. MARK: Well, I think, Mr. Chairman,
13 we can go some considerable way towards that ends by
14 knowing what was given to them so we can at least
15 assess the ability they had and the opportunity they
16 had to make their decision and on what factors it seems
17 to have been made, certainly on the basis of the
18 documentation presented to them.

19 With respect to the planning criteria
20 that Mr. Howard says has been discussed before you at
21 some length in connection with the DSP, that may be,
22 Mr. Chairman, but the object of the enquiry in this
23 respect is a simple one, and that is to see whether the
24 same criteria were in fact applied in the development
25 of the Update.

1 THE CHAIRMAN: I think we had better
2 adjourn to discuss this particular motion.

3 THE REGISTRAR: This hearing will recess
4 until recalled.

5 ---Recess at 10:39 a.m.

6 ---On resuming at 11:30 a.m.

7 THE REGISTRAR: Please come to order.
8 this hearing is again in session. Please be seated.

9 THE CHAIRMAN: We have before us a motion
10 by the Municipal Electric Association requesting a
11 further answer to two interrogatories, numbered
12 10.9.106 and 10.9.107.

13 In general, the interrogatories request
14 information as to the update process within Ontario
15 Hydro. Ontario Hydro's response is that its position
16 is set out in Exhibit 452 and supporting documents.

17 It is agreed that the planning process is
18 a relevant consideration at this hearing. In our view,
19 the matters listed in subparagraphs (a) to (d)
20 inclusive, in Interrogatory 10.9.106 fall within the
21 ambit of relevancy as matters which require the
22 consideration of this Board. However, the nature of
23 the material requested, which includes internal
24 correspondence, memoranda or other communication,
25 including minutes of meetings and documents furnished

1 to the board of directors is in our view too broad.

2 Corporate decision-making is a very
3 complex matter, and particularly in the circumstances
4 and size of the proponent. It is an extremely
5 difficult matter to assess. Questions dealing with
6 details of the materials requested, in our view, would
7 involve the Board in a lengthy investigation that would
8 probably not be helpful.

9 We would expect that most of the
10 questions could be answered by the members of the panel
11 presently before us. However we do think it would be
12 helpful both to the Board and to the parties if there
13 was some further information provided that would enable
14 the questions on cross-examination to be better
15 focussed.

16 We think it would be helpful and we would
17 direct that Hydro provide a summary of the stages of
18 the development of the Update, which should include the
19 major elements of analysis and documentation with dates
20 of their initiation and completion, and we would ask
21 that that be done as soon as possible.

22 MR. HOWARD: Mr. Chairman, we have the
23 direction.

24 In order to do it expeditiously, it will
25 require counsel to speak to witnesses who are about to

1 be cross-examined, and I take it that may be done, as
2 these people were directly involved in the process. We
3 will do it as promptly as possible, but we can't do it
4 without speaking to the witnesses.

5 THE CHAIRMAN: That will be fine. You
6 can do that.

7 Now, Mr. Mark, are you in a position to
8 commence your cross-examination?

9 MR. MARK: Mr. Chairman, those types of
10 questions were to form a large part of my
11 cross-examination. I am really in your hands.

12 I am not sure of the timing of Ontario
13 Hydro to produce this. I have other matters I could
14 cross-examine on and defer that. I would suppose this
15 is a matter of some importance to other parties as
16 well. If the type of information you have directed
17 them to give as I suspect could be prepared relative
18 expeditiously, it may wise to let that be done before
19 we commence.

20 But I am prepared to proceed with other
21 matters.

22 THE CHAIRMAN: I don't want to debate in
23 public until they have had a chance to discuss it with
24 Mr. Howard the timing, because there may be a time
25 aspect that nobody could quite put a handle on that at

1 the moment. But perhaps if you could go as far as you
2 can and then we will have to see what happens after
3 that.

4 MR. MARK: All right.

5 THE CHAIRMAN: This doesn't preclude you
6 from asking questions of these witnesses on that
7 subject.

8 MR. MARK: No, that's the other point I
9 wanted to raise, Mr. Chairman. I think I will
10 endeavour, as long as it's understood that I have a
11 right to have some further cross-examination after we
12 get production of this from Ontario Hydro, I will
13 endeavour to be diligent in excluding some of what I
14 will call the more mundane aspects on the questioning
15 of timing of documents, et cetera. But there are
16 certain questions which would be relevant to that
17 disclosure but I may ask anyway in the context of the
18 cross-examination.

19 MR. HOWARD: It might be helpful, Mr.
20 Chairman, certainly I don't know the answer to this
21 question and I know my friend is probably reluctant to
22 ask questions that he doesn't know the answer to, but
23 we might all be wiser if we asked the panel how long
24 they think it might take to produce what you direct,
25 because they are the ones who are going to be asked the

1 questions by me, then we would all be equally wise.

2 THE CHAIRMAN: I think they might want to
3 discuss it before they are put on the spot. [Laughter]

4 MR. HOWARD: Well, I tried.

5 THE CHAIRMAN: I will ask them if you
6 want me to.

7 MR. HOWARD: If you don't want to ask the
8 question, I'm certainly not going to press.

9 MR. MARK: On that basis, I am not sure
10 what it is, but I will proceed.

11 CROSS-EXAMINATION BY MR. MARK:

12 Q. Mr. Snelson, as we know, you have
13 presented in the Update, as I gather, six alternative
14 plans action; is that correct?

15 MR. SNELSON: A. The Update includes the
16 three managed surplus cases, that's the nuclear and
17 fossil and enhanced and corresponding cases without the
18 surplus being managed.

19 Q. It wasn't entirely clear for me from
20 the filed evidence, Mr. Snelson, but do I take it that
21 Ontario Hydro has not identified a preferred plan from
22 amongst those six alternatives?

23 A. That is correct.

24 Q. I had understood from your direct
25 evidence the other day that you do, however, prefer the

1 managed cases to the unmanaged cases? Do I have that
2 correctly?

3 A. We do expect that we will manage
4 surpluses, maybe not in the way that is described in
5 the managed cases because that is illustrative, but
6 yes, we will manage the surpluses.

7 Q. Can we proceed on the basis that you
8 prefer the managed plans to the unmanaged plans to the
9 unmanaged plans, is that a fair statement?

10 A. I think our indication is that we
11 will manage the surplus and that maybe indicates a
12 preference, but not for those specific measures of
13 surplus management.

14 Q. Then subject to further clarification
15 regarding the precise mechanisms by which you manage
16 the surplus, is it fair to say you prefer the managed
17 plans to the unmanaged plans?

18 A. We do expect to manage surpluses.

19 Q. Is it fair to say that your
20 expectation you will do so derives from your preference
21 to manage rather than not to manage the surplus?

22 A. We recognize that the managed surplus
23 cases have lower impacts on electricity rates and
24 that's why we expect to manage the surpluses.

25 Q. You say you expect to, has there been

1 a decision made to opt for a managed surplus rather
2 than an unmanaged surplus?

3 A. The decision that would be made is a
4 series of decisions as to how to manage the surplus and
5 those decisions have not been made.

6 Q. But are we past the stage where
7 Ontario Hydro is going to deliberate as to whether or
8 not there will be surplus management?

9 I don't want to complicate this. It
10 seems to be me to a simple matter.

11 A. As I said, we are planning on the
12 basis that we will manage the surpluses.

13 MR. SHALABY: A. Maybe I will add
14 something. As Mr. Snelson is saying, it's going to be
15 a series of decisions and perhaps one of those
16 decisions has already been taken and that is the
17 non-utility generation contract renegotiations, for
18 example, that is an indication from Hydro that the
19 contracts as they were seen sometime back are going to
20 contribute to surplus and we want to size those down a
21 bit.

22 Q. Does Hydro at all expect to develop a
23 surplus management plan which has specific components
24 and mechanisms in it?

25 MR. SNELSON: A. We expect that will

1 gradually evolve over time and that the decisions will
2 be made as they need to be made.

3 There is a reluctance to define specific
4 measures too early before the decisions need to be made
5 because that would lose some of the flexibility to
6 maintain some of the options that would contribute to
7 the surplus in meeting growth which we are relying upon
8 as protection in case of upper growth.

9 Q. I understand you may not want to
10 implement some of your management mechanisms until an
11 appropriate time. I am more interested in whether and
12 when we can expect to see a proposed plan for
13 management surplus which would, for example, prioritize
14 the surplus management options and give some indication
15 of a likely course of action?

16 A. As I have said, we expect that to
17 evolve over time and I can't give you a specific date
18 when suddenly it will be all laid out.

19 Q. Do you expect it will be laid out in
20 any more detail or defined form than it is in the
21 illustrative examples that you have alluded to in the
22 to date?

23 A. I expect that each set of planning
24 decisions that are made, then those actions will
25 gradually become defined and solidified. But it will

1 be an evolving process rather than a single set of
2 decisions.

3 Q. Can you assist us at all today in
4 prioritizing options. For example, you have
5 opportunities to reduce or defer, I guess, some your
6 demand management initiatives. There is NUGs, there is
7 mothballing. Can you assist us at all in giving us
8 some idea of where you think it advisable to start?

9 A. I believe I said in my direct
10 evidence that the general guide to priorities is the
11 reverse application of the priority strategic
12 directions. And so cutting back on the demand
13 management program would be one of the last things that
14 we would resort to in surplus management.

15 Q. Are costing questions going to be
16 paramount in this analysis or not? In other words, if
17 for example, it would be more cost-effective to defer a
18 demand management program rather than, say, mothball a
19 facility. Would you do that or would you stay with
20 what I gather you were suggesting a moment ago that you
21 wouldn't, you would maintain the demand management
22 program even if a strict cost analysis suggests you do
23 otherwise?

24 [11:45 a.m.]

25 A. I believe cost will be one of the

1 factors looked at, but I don't believe it will be the
2 paramount factor.

3 Q. So would it be fair to summarize it,
4 as we stand here today, the preference of the options
5 as you have alluded to with demand management at the
6 top will prevail over cost considerations?

7 A. In some cases, yes, but maybe not in
8 all cases.

9 Q. And do you have any sense of what
10 criteria would govern you in making those decisions?

11 A. I think that this is something we are
12 struggling with, and we are very concerned that we
13 don't want to lose long-term demand management
14 potential by cutting back on a program in the short
15 term for cost reasons, say, and thereby losing the
16 momentum of the program, because we believe that the
17 program to be successful has to have continued thrust
18 and momentum over an extended period of time.

19 So we are concerned that chopping and
20 changing the demand management program would greatly
21 reduce the effectiveness of the program.

22 Q. But ultimately that comes down to a
23 question of cost, does it not, Mr. Snelson?

24 A. I think that there are cost
25 implications, but also there is the priority that the

1 corporation is putting on achieving maximum demand
2 management to reduce major supply in the future.

3 Q. Would it be fair to conclude that at
4 present the corporation intends to meet its year 2000
5 demand management target regardless of the surplus
6 situation?

7 A. We have shown in the illustrative
8 surplus management the current forecasts of demand
9 management for the surplus managed cases, and we are
10 maintaining a target of meeting our targets of demand
11 management.

12 Q. Those are the targets referred to by
13 Panel 4?

14 A. Yes. That is the illustrative
15 assumption, and I suspect that it will be close to what
16 we will in fact do.

17 Q. Would you agree with me, Mr. Snelson,
18 that that certainly increases the potential that what
19 we will end up with between now and say the year 2000
20 is something other than a least cost plan?

21 A. Yes, and I think we have always aimed
22 for a low cost plan.

23 Q. Now, just going back to where we
24 started off, Mr. Snelson, am I correct that as amongst
25 the three managed surplus cases Ontario Hydro doesn't

1 advocate one over the other; it has no preference at
2 this point in time?

3 A. We haven't chosen a preference
4 between the managed surplus nuclear, managed surplus
5 fossil cases.

6 Q. What about the enhanced case?

7 A. The enhanced case has somewhat less a
8 status, but it is something which was not in the main
9 body of Exhibit 452. It wasn't part of the plan that
10 was approved by the Board.

11 Q. Well, what is its status, to use your
12 term, if I might ask?

13 A. It is a direction that we could still
14 go. In many cases it is consistent with the other
15 plans, but it shows the effect of going to even higher
16 levels of -- even higher levels of environmental
17 protection and the use in the longer term of some
18 technologies which currently are not commercially
19 developed to the stage that they could be relied upon
20 in planning.

21 Q. Now, I understand what it involves.
22 My question was more to your comment, Mr. Snelson, that
23 it has a somewhat different status, and I am interested
24 in understanding exactly what that is.

25 Is it a plan advanced which is feasible

1 for implementation which should be looked at equally
2 with the fossil and the nuclear cases, or not?

3 A. We have not chosen the major supply
4 options beyond the year 2009.

5 Q. Yes.

6 A. The nuclear and fossil are examples
7 of how that might be met, but neither one of those has
8 been selected either.

9 But the corporation, coming back to -- so
10 that deals with the period beyond 2009. The enhanced
11 is yet another way of dealing with major supply
12 requirements post-2009.

13 Prior to 2009, the enhanced plan has a
14 higher level of environmental controls.

15 Q. Yes.

16 A. And that higher level of
17 environmental controls is not currently part of the
18 corporation's business plan. The level of controls
19 that is in the update nuclear and update fossil cases
20 is the level which Ontario Hydro is currently planning
21 on.

22 Q. No, I understand that. Maybe we
23 should go back a step and understand exactly what is
24 being presented in your evidence now.

25 Correct me if I am wrong. I had thought

1 Ontario Hydro had developed these three cases, the
2 managed cases - nuclear, fossil and enhanced - as being
3 alternative methods of moving into the future and that
4 they could be considered equal in terms of this Board
5 or Ontario Hydro sometime in the near future being able
6 to select one of those three.

7 A. I think that we may still have the
8 flexibility to follow some aspects of the
9 environmentally enhanced plan, but, as I have said, the
10 way in which its status is different is that we are not
11 currently planning upon that level of controls in the
12 next 10 or 15 years.

13 It is still available to be selected, but
14 that is not what we are planning on.

15 Q. Is it a plan you put forward as one
16 that, for example, if this Board is to look at these
17 alternative plans and choose a preferable one for the
18 future do you suggest that they should be able to
19 consider the enhanced plan on the same basis as the
20 other two as being reasonable and feasible?

21 A. In most respects, yes.

22 Q. And in what respects not?

23 A. The respect that I had in mind when I
24 made that remark was that beyond 2009 the plan relies
25 on some technologies which are not as yet fully

1 commercially developed and is illustrative of the sort
2 of impacts of relying upon fuel cells, for instance,
3 which are not yet fully commercially available but may
4 be by that time.

5 Q. So is it fair to say that certainly
6 as we sit here today Ontario Hydro could not adopt a
7 business plan with a view to putting into place the
8 enhanced plan?

9 A. I suspect that the differences in the
10 post-2009 period are far enough into the future that it
11 wouldn't enter into a 5-year or a 10-year business
12 plan.

13 Q. All right. Can we leave it at this,
14 as we sit here today some of the technologies that are
15 reflected in the enhanced plan Ontario Hydro can't say
16 they will be available when called upon for that
17 enhanced plan?

18 A. I believe that with the exception of
19 the technologies that are shown in the back end of the
20 plan of fuel cells and biomass that the components that
21 are shown earlier are technologically developed, I
22 believe.

23 Q. Has Ontario Hydro given any
24 consideration to what other form the enhanced plan
25 would take if those particular technologies do not

1 mature in sufficient time for implementation?

2 A. We haven't done any specific analysis
3 of what would replace those technologies in the
4 environmentally-enhanced plan. We considered them
5 representative of the technologies from the Alternative
6 Energy Review that were best developed and most likely
7 to contribute in the planning period.

8 Q. So, for example, you can't tell us
9 today, if the fuel cell technology doesn't mature you
10 don't know what you would propose as a substitute
11 supply facility?

12 A. That's correct.

13 Q. Mr. Snelson, would I be correct in
14 concluding that the major reason for the new approach
15 reflected in the Update is the change in the load
16 forecast?

17 A. No, I don't think that is the major
18 reason.

19 Q. Is it the major reason for Ontario
20 Hydro no longer requesting approvals for major new
21 supply facilities from this Board?

22 A. No, I don't believe it is the major
23 reason.

24 Q. So what else in addition to the
25 changes to the load forecast contribute specifically to

1 this issue of not requesting the major supply facility
2 approvals at this time?

3 A. The two biggest factors, I believe,
4 are the increased projections for demand management,
5 so -- and the increased projections for non-utility
6 generation, both from cogeneration and also from other
7 natural gas non-utility generation.

8 Q. Perhaps I wasn't clear before, but it
9 is the extent to which those items are reflected in the
10 new primary load forecast that has led to your decision
11 to defer the request for major new approvals?

12 A. The demand management is reflected in
13 the primary load forecast; the non-utility generation
14 is reflected as part of supply. But together they do
15 defer the need for major supply from Ontario Hydro.

16 Q. Put it at the bottom line, it is this
17 question of where the load forecast and the supply line
18 meet which has dictated the decision about deferring
19 the request for approvals for major new supply?

20 A. That is one factor.

21 Q. All right. What else?

22 A. The shift in the economics of natural
23 gas-fired options.

24 Q. And how does that impact on the
25 decision to defer your approval requests?

1 A. I believe I alluded to that in my
2 direct evidence when I indicated that the natural
3 gas-fired options are the short lead time options which
4 you rely upon if you plan not to seek approvals for
5 long lead time coal or nuclear options, and that lower
6 natural gas prices has the effect of narrowing the cost
7 difference between the natural gas-fired short lead
8 time options and the longer lead time coal and nuclear
9 options, and so it reduces the incentive to seek
10 approvals ahead of time.

11 Q. Just looking out to the future, Mr.
12 Snelson, would I be correct in assuming that if at some
13 point it becomes apparent to you that the need date is
14 being advanced you will then immediately apply for
15 approval of a major new facility?

16 A. I'm sorry, can you repeat that
17 question?

18 Q. Yes. You have based this decision on
19 the load forecast as we have it today; is that fair?

20 A. The load forecast and forecasts of
21 these other -- demand management and non-utility
22 generation, yes.

23 Q. That's right. And if at some point
24 in the future, be it next year or two years from now,
25 that need date changes and becomes advanced by some

1 number of years would I be correct in assuming that
2 Ontario Hydro will revisit this question of how long it
3 is appropriate to defer the request for major new
4 supply?

5 A. If the need for major new supply was
6 to be advanced, then we would have to consider whether
7 in fact we needed to seek some approvals for that.

8 Q. And would I be correct that
9 similarly, if for example this Board were to conclude
10 that as we sit here today your forecast of the future
11 need date was incorrect because of some assumptions you
12 make about demand management or other items, would you
13 then revisit the question of whether major new facility
14 approvals are required today?

15 A. We may have to.

16 Q. Have you given any consideration to
17 what need date would prompt you at this time to revisit
18 your approach?

19 A. No, I don't believe that we have
20 defined a specific date.

21 Q. So have you addressed even amongst
22 yourselves at all the question of what date, what
23 cross-over date is sufficient to permit you to continue
24 with the updated plan or to make you go back to the old
25 method of requesting approvals today?

1 A. I don't recall a specific discussion
2 in that regard.

3 Q. Well, have you considered the
4 eventualities, Mr. Snelson? For example, have you
5 considered what your response would be if this Board
6 were to determine, for example, that your median
7 forecast of demand management was high by 2,000
8 megawatts?

9 A. No, we have not specifically
10 considered that.

11 Q. So you can't give this Board any
12 assistance as to what reductions they could make in
13 that forecast which would put into question the
14 appropriateness of the approach of deferring approvals
15 beyond this hearing?

16 A. No, I don't believe we can help with
17 that question.

18 MR. SHALABY: A. Before we go too long
19 with this deferring approvals, I'm sure we are asking
20 for approvals.

21 Q. No, I think --

22 A. I don't want it to be seen as we are
23 deferring all approvals. We are asking for hydraulic
24 approvals and the Manitoba approval, and those
25 constitute major contribution to meeting the median

1 load forecast.

2 Q. I understand that, and just bear with
3 me, Mr. Shalaby. Why don't we assume when I talk about
4 no requests for approvals I am talking about major new
5 fossil and nuclear facilities, and we will accept that
6 you are asking for approvals for Manitoba and
7 hydraulics; fair enough?

8 A. (Nodding)

9 Q. All right. Now, leaving the demand
10 management aside for a moment, Mr. Snelson, have you
11 considered what impact denial of approval by this Board
12 of the Manitoba Purchase or of the other hydraulic
13 facilities would have on your selection of the approach
14 to defer approvals?

15 MR. SNELSON: A. We have considered that
16 that would be the loss of about 2,800 megawatts
17 capacity.

18 Q. Yes?

19 A. And that we might very well be
20 seeking approvals in that case. We haven't considered
21 what those approvals would be, but that would certainly
22 move us in that direction.

23 Q. So you have nothing for us, then,
24 which would give us some alternative scenarios of what
25 you do with regard to approve requests if various of

1 your targets of either new supply or demand management
2 aren't accepted by this Board?

3 A. In deciding what approvals to request
4 we have generally worked on the principle that we
5 wouldn't like to have to start an approval process
6 for -- sorry, we would seek approval in this process
7 for any option which we expected to have to submit an
8 environmental assessment of a project within five
9 years--

10 Q. Yes.

11 A. --within five years of the end of
12 this process. And that with the lead time of the
13 options from the submission of an environmental
14 assessment to this in-service date does help in this
15 regard in terms of defining when we would need to seek
16 approvals and whether we would have considered adding
17 approvals to this process, if we had a lesser target.

18 [12:03 p.m.]

19 Q. Do I take it from that, Mr. Snelson,
20 correct me if I am wrong, that if this Board in its
21 rulings gives you lesser new supply or makes some
22 determination about demand management targets which
23 using those lead time dates would moves an EA filing up
24 to within the five-year period, would Ontario Hydro be
25 reinstating its request for approval for a new supply

1 facility in the context of this hearing?

2 A. We would seriously consider it under
3 those circumstances. That is the sort of rule that we
4 have applied in deciding what to do. There would still
5 be a judgmental layer to be added to that, but that
6 would be the general rule.

7 Q. But as it stands now you are not
8 proposing to this Board, as I understand it, that if
9 the other numbers come out such that you would have to
10 apply for an EA within the five years, you are not
11 proposing that this Board give you those approvals?

12 A. We are proposing that the Board give
13 us the approvals we have requested.

14 Q. I understand that, but that wasn't my
15 question.

16 A. Can you repeat your question then?

17 Q. Sure. And I apologize if it wasn't
18 clear.

19 You are not presently, as I understand
20 it, proposing to this Board that if they deny you the
21 approval for, say, the Manitoba transmission and the
22 other new hydroelectric, that if that means you should
23 be applying for an EA within five years, you should be
24 filing an EA within five years, you are not presently
25 asking this Board to give you a requirement and

1 rationale approval for that major additional supply
2 facility?

3 A. No, we are not. We have not proposed
4 alternative approvals in case these approvals are not
5 obtained.

6 Q. But as I understand you, you still
7 maintain that that five-year action plan date is a
8 governing feature of your planning approach?

9 A. That is certainly the way we
10 approached it, yes.

11 Q. Now, Mr. Snelson, the need date under
12 the new median scenario as I understand is 2009; is
13 that correct?

14 A. Yes.

15 Q. And under the nuclear case you would
16 be filing an environmental assessment when to meet a
17 2009 in-service date?

18 MR. DALZIEL: A. It would be 10 years
19 ahead of that date, is what we have assumed in the
20 Update.

21 Q. So that would be 1999?

22 A. That's right.

23 Q. I take it, Mr. Dalziel, that Ontario
24 Hydro's present expectation is that this Board will
25 release a decision sometime in 1994?

1 A. That's possible.

2 Q. Isn't that the most likely scenario?

3 A. It could be '93.

4 Q. You are aware of the Chairman's
5 comments a few days ago?

6 A. Perhaps I am being optimistic.

7 Q. Wouldn't 1994 be a reasonable
8 planning date for this Board's decision?

9 A. Yes.

10 Q. And I am I correct in my mathematics
11 that 1999 is within five years of 1994?

12 A. Yes.

13 Q. All right. So to implement the
14 Update nuclear plan, using your median need dates, that
15 you will be applying for an environmental assessment
16 within five years of this Board's decision?

17 A. It would be close. I don't know if
18 it would be five years to the month.

19 Q. We are in the range of five years,
20 aren't we?

21 A. Close to it.

22 Q. Can you tell me why then your plan
23 does not ask this Board for approval for that nuclear
24 facility given your own five-year action plan
25 guideline?

1 A. At the time that the Update was being
2 prepared, the anticipated date for a decision from this
3 panel was 1993. So at that time '93 in five years took
4 us to 1998.

5 Q. So you will forgive me, Mr. Dalziel,
6 if I make the observation that making significant
7 changes to plans is not something that Ontario Hydro
8 appears to be adverse to in this hearing. And I am
9 suggesting, I want to know why in view of the present
10 circumstances you are not reinstating your request for
11 that approval?

12 A. The other factor is that in preparing
13 the Update we felt that a decision on the major supply
14 facility was not required at this time. So we are not
15 making a decision as to whether that request for the
16 major supply facility would be a nuclear facility or
17 whether it would be a fossil facility.

18 Q. Getting the approval from this Board,
19 Mr. Dalziel, it doesn't oblige you to file an EA in the
20 future, does it?

21 A. No, it doesn't.

22 Q. And indeed, wasn't that the whole
23 objective of this exercise, to obtain approvals that
24 you might need without any obligation necessarily to
25 proceed if you don't need them?

1 A. That's correct.

2 Q. Now, in view of that, can you help me
3 as to why you haven't amended to seek approval for this
4 facility, you will need to file the EA before 1999?

5 A. As I said, earlier, at the time that
6 the update was being prepared, we anticipated that a
7 decision from this hearing process could be in 1993 and
8 with the five years that took to us 1998.

9 Q. So you thought then that the one year
10 was enough of a difference to justify omitting all
11 requests for the major new supply approvals?

12 A. We were applying a consistent
13 assumption, and that's correct.

14 Q. Now, my question, Mr. Dalziel, was in
15 view of the present state of our knowledge, why aren't
16 you seeking that approval?

17 MR. SNELSON: A. I think, Mr. Mark, we
18 are getting a little hung up on the specifics of these
19 dates. I think I indicated that this was the working
20 rule.

21 Q. Yes.

22 A. And there is nothing magic about five
23 years. It's a reasonableness sort of criteria. We
24 don't want to have to go through approval processes too
25 frequently, and so you want there to be a fairly long

1 period of time, and you have to recognize that
2 approvals have a shelf life, and that an approval that
3 is obtained a long while ahead of when it's going to be
4 used may not in fact be useful by the time it's needed.

5 Q. Well, Mr. Snelson, it's Ontario Hydro
6 that considered that and decided upon five years; isn't
7 it? That's the decision you made?

8 A. We made a decision in '89 based on
9 the five years. We recognized at that time that it was
10 a very soft sort of date. It wasn't something where
11 four-and-a-half years was very different to
12 five-and-a-half years or even four years difference to
13 six years. It was three years seemed too short, ten
14 years seemed too long. That kind of thinking that have
15 went into selection of the five years.

16 Q. In fact, when you issued your Update,
17 you still considered that five years was the
18 appropriate time limit?

19 A. That's correct.

20 Q. That's right. So you have, even in
21 the course of all the changes you have been faced with
22 in the future, which resulted in Update, you have
23 looked at that question again and you still come down
24 with five years?

25 A. We did not change the five years.

1 Q. Well, you still consider it
2 appropriate, I take it.

3 A. That's correct.

4 Q. All right. Now, are you suggesting
5 to me, Mr. Snelson, that you consider it appropriate
6 but you don't want to follow it in this instance?

7 A. The Update was produced last fall and
8 it was appropriate at that time, you don't go around
9 changing these things all that frequently.

10 Q. I'm sorry, I didn't catch the last
11 statement.

12 A. I don't think this is the sort of
13 thing that you would just change to go from seeking no
14 approvals to seeking approvals, because the expected
15 duration of this process is six months longer than it
16 previously was thought to be.

17 Q. But you felt it sufficient to
18 withdraw your request for approval over six months the
19 other way.

20 A. No.

21 Q. Well, I think Mr. Dalziel just told
22 me you thought this process would be over sometime in
23 1993 and therefore a request for approval in 1999 took
24 it outside the window, so you withdrew the request;
25 correct?

1 A. We withdrew the request because the
2 need date for the major new supply facilities had
3 shifted from 2002 or 3, to 2009, which was a very
4 significant change.

5 Q. Yes. But working backwards, just
6 using your methodology, Mr. Snelson, the key date is
7 that date of the filing of the EA, and you have
8 consistently maintained that five years is the
9 appropriate limit; correct?

10 A. We have maintained at about five
11 years.

12 Q. And Mr. Dalziel just told me a few
13 moments ago that you didn't include the request for
14 approval in the Update at the time you released the
15 Update because you expected a decision in 1993;
16 correct?

17 A. Yes.

18 MR. SHALABY: A. That wasn't the only
19 reason he gave.

20 Q. You will excuse me, Mr. Shalaby.

21 Now, Mr. Snelson, you know it's going to
22 be something different. We would get the year back.
23 It looks like it's going to be 1994.

24 Now it seems to me as an observer that if
25 you took it out for the one year, you should be willing

1 to put it back for the one year.

2 MR. SNELSON: A. Well, from our
3 perspective, the major change was from requiring
4 approvals as soon as we could get them, which was the
5 situation in '89, to be ready for 2002 or 2003
6 in-service date, to needing approvals for around a 2009
7 period, and that is a major change.

8 I think what we are talking about now is
9 the very fine shades of difference about a five year
10 number that is an approximate number.

11 Q. So do you now want to go back, Mr.
12 Snelson, and say we shouldn't have regard to the
13 five-year number as the appropriate time?

14 A. I think the five years is still an
15 approximate indication of the right number.

16 Q. Is it approximate or is it the one
17 that you are using to govern your submissions for
18 approvals?

19 A. As I indicated a few minutes ago,
20 five years is the rule that we tend to use and there is
21 nothing magic about that. That is an approximation
22 towards a reasonable number.

23 Q. Let me read to you, Mr. Snelson, from
24 page 32 of Exhibit 452, which is the Update. Do you
25 have that, Mr. Snelson?

1 A. What page number was it?

2 Q. 32. Second paragraph:

3 Approvals continue to be sought based
4 on an action plan which includes the
5 facilities for which a project
6 environmental assessment document is
7 expected to be submitted within at 5-year
8 period from the Environmental Assessment
9 Board decision.

10 Now, this is your most recent planning
11 document, Mr. Snelson. Is that statement accurate or
12 not?

13 A. It is accurate within the context
14 that we discussed. It was accurate at the time it was
15 written, and as you are pointing out, the five-year
16 period is getting close because of the lengthening of
17 this process, and we haven't changed to respond to
18 that.

19 Q. Would I be correct in taking from
20 everything you have said in the past few minutes, Mr.
21 Snelson, that Ontario Hydro presently has no intention
22 of responding to that change?

23 A. At this point in time, due to the
24 shifts that we have talked about in the few months or
25 to a year, then I don't believe that we intend to

1 change our plans. If that change was to be
2 substantially larger, then we would have to consider
3 it, certainly.

4 Q. When do you anticipate filing an
5 Environmental Assessment for our major new supply
6 facility required in 2009?

7 MR. DALZIEL: A. I said earlier it would
8 be about 2009 -- sorry, 1999, if we were following the
9 update nuclear.

10 Q. Thank you.

11 A. I could add to that by saying if we
12 were using the update fossil case, then it would be
13 later than 1999.

14 Q. How much later would it be?

15 A. The lead time on the IGCC facility is
16 seven years, so it would be 2009 minus seven years. So
17 it would be around 2002.

18 Q. And, Mr. Dalziel, am I correct in
19 assuming that the hearings that would be associated
20 with that environmental assessment filing would be for
21 need and rationale, requirement and rationale as well?

22 A. The lead time I am referring to is
23 for the site-specific EA.

24 Q. When would you have a requirement and
25 rationale EA?

1 MR. SNELSON: A. We haven't decided, Mr.
2 Mark, that if we were to go through this process again
3 that we would separate them. They could be together or
4 they could be separate.

5 Q. So as we sit here today with a need
6 date of 2009, you don't even know whether -- you
7 propose to have one hearing or a sequence of hearings
8 to get this new facility approved?

9 A. That's correct.

10 Q. Now, Mr. Snelson, you have been
11 talking somewhat about the deferral of the need date
12 under the median scenario, that's the key deferral you
13 have been talking about?

14 THE CHAIRMAN: You are talking about the
15 need date for major supply?

16 MR. MARK: Yes.

17 MR. SNELSON: Yes.

18 MR. MARK: Q. And do I understand
19 correctly the point to be that before the need dates
20 under the DSP, under the then existing forecast, were
21 very close together between the median and the upper
22 but now they are more spread out and that's the feature
23 which allows you to plan to the median?

24 MR. SNELSON: A. For the specific base
25 load facilities, yes.

1 Q. And how much is that deferral? It's
2 now 2009, what is your upper need date now?

3 MR. DALZIEL: A. The need date under the
4 upper would be around the year 2001.

5 Q. So we have approximately an
6 eight-year difference then; is that correct?

7 A. That's right.

8 Q. And under the original DSP, what was
9 the difference between the two need dates?

10 A. For the major base load supply
11 facility?

12 Q. Yes.

13 A. It was one year.

14 Q. One year. And where do I get that
15 from?

16 A. If we look in Exhibit 3, Chapter 15,
17 we can find a description of the 1989 plan under upper
18 load forecast. I am looking at page 15-10.

19 Q. Yes?

20 A. The bottom one-third of that figure,
21 it spans both pages, 15-10, 15-11, shows the major
22 supply facilities coming into service. And if we look
23 at the base load supply of the facility, which is CANDU

24 A.

25 Q. Yes.

1 [12:25 p.m.]

2 A. And we see under the year 2002 the
3 first unit of 4 by 881 megawatt station coming into
4 service. That is the year 2002.

5 If we go up to the middle portion of that
6 figure that corresponds to medium load forecast, and we
7 see then under the year 2003 when the first unit of the
8 base load station is coming into service. That is the
9 one-year difference.

10 Q. Those, as you have said, Mr. Dalziel,
11 those are not need dates, are they; those are
12 in-service dates?

13 A. That's correct.

14 Q. And, in fact, under the DSP there was
15 quite a differential between the need dates as opposed
16 to the in-service dates under the two scenarios, was
17 there not?

18 A. Yes, that's right.

19 MR. SHALABY: A. Those can be found in
20 figure 13-10, Exhibit 3.

21 Q. That's right. And if we turn to
22 that, Mr. Shalaby, we see that the difference in the
23 need dates -- well, it is similar in range to the
24 difference between the need dates you are looking at
25 today?

1 A. I accept that. I accept that.

2 THE CHAIRMAN: I'm sorry, what page was
3 that again, Mr. Shalaby?

4 MR. SHALABY: It's figure 13-10 on page
5 13-7, that's correct.

6 MR. MARK: Of Exhibit 3.

7 Q. And under the DSP, faced with a
8 similar difference between the need dates that we see
9 now, you made provision for an interim facility of the
10 IGCC; did you not, Mr. Shalaby?

11 MR. SHALABY: A. Under...?

12 Q. Under the DSP where you had this
13 difference between the need dates you made provision
14 for an IGCC to come in-service before you could get
15 your first CANDU in-service?

16 A. IGCC as well as combustion turbines,
17 yes.

18 Q. Yes.

19 A. I think it was mostly combustion
20 turbines convertible to IGCC.

21 Q. So what you did in the DSP in
22 response to this time difference was to obtain approval
23 for the CTU IGCC as an interim measure, if needed?

24 A. That is correct.

25 Q. Now, Mr. Snelson, what timetable has

1 Ontario Hydro set, if any, to make a decision about the
2 type of major new supply you will be implementing in
3 the future?

4 MR. SNELSON: A. I don't believe we
5 defined a timetable.

6 Q. Have you turned your minds to the
7 question of by what date you have to make that
8 decision?

9 A. I think we are confident that we
10 don't need to make that decision in the next year or
11 two, but beyond that I don't think we have addressed
12 it.

13 Q. Well, certainly if you are going to
14 go the nuclear route would you agree with me that
15 sometime within the next two or three years you have
16 got to make that decision?

17 A. Maybe a little after that, but not
18 too long after.

19 Q. I take it from what you have said you
20 have got no timetable in place. Have you turned your
21 minds at all to what analysis or what decision-making
22 process you are going to go through to permit you to
23 make that decision at that time?

24 A. No, I don't believe we have.

25 Q. Have you identified what criteria you

1 are going to look at in making that decision?

2 A. Generally, it would be the criteria
3 we would apply to Demand/Supply Planning as outlined in
4 Exhibit 74.

5 Q. So essentially the same criteria that
6 you spent five years or more refining?

7 A. It is the same criteria that are in
8 the demand/supply planning strategy.

9 Q. So in summary, Mr. Snelson, at some
10 time, not more than one year or so beyond the date this
11 Board is going to give its decision, you are going to
12 be making a decision about major new supply based on
13 the same criteria you have been planning on and using
14 for the past several years?

15 A. We certainly would have to start
16 addressing those points somewhere in that time period
17 in terms of requirements for preliminary engineering.
18 They wouldn't necessarily be final decisions, but there
19 would have to be some exploration.

20 Q. But if you were to bring in a nuclear
21 unit on time to meet 2009 that is when you have to make
22 a decision?

23 A. Specifically to answer your question,
24 Mr. Mark, I would like to review the schedules that
25 were given by Panel 9. I don't have that information

1 with me.

2 Q. Sorry, some schedules for what?

3 A. Panel 9 made out the schedules for
4 CANDU 6 and other nuclear options.

5 Q. But we have it, Mr. Snelson. If you
6 can turn to 452D -- pardon me, C, 452C, page 5... Do
7 you have that, Mr. Snelson?

8 A. 452C?

9 Q. C. Page 5.

10 A. Yes, I do.

11 Q. These are the option lead times that
12 underlie the Update; correct?

13 A. That is correct.

14 Q. All right. And if we look at the two
15 CANDU options, either the 881 or the CANDU 6, which is
16 denoted by 670, you have got a range of either 12 to 15
17 years or 10 to 14 years as your total lead time from
18 when you start your definition work.

19 A. That is correct.

20 Q. So if you are going to preserve or
21 implement either of those options to meet the 2009 date
22 you have got to make a decision certainly with respect
23 to the CANDU 881 by 1994, to be safe; correct?

24 A. These are ranges of in-service dates.

25 Q. Yes.

1 A. Of lead times.

2 Q. Yes.

3 A. I guess you run the risk -- if you
4 let it go past the longest of those times, you run the
5 risk that your facility might be a little bit late.
6 But the range is 12 to 15 years. So somewhere
7 between -- if you are aiming for 2009, then you have to
8 start your definition work sometime between 1994 and
9 1997.

10 Q. Surely, Mr. Snelson, as a planner
11 wouldn't you recommend that you make your decision as
12 to whether you are going to go with that option before
13 the outside of that range?

14 A. As a planner you have to recognize
15 that if you haven't made the decision by the time, by
16 the outside of that range, then you are running some
17 risk that the facility will be later than you would
18 otherwise intend it to be.

19 Q. In other words, optimal planning
20 would compel you to make a decision on the CANDU
21 options within a year or so after the expected date of
22 this Board's decision?

23 A. No, I haven't said that. Optimal
24 planning has to balance the uncertainties about making
25 decisions based on very long lead times against the

1 better information that becomes available as time
2 progresses.

3 So you are all the while struggling with
4 this tension between making a decision to give yourself
5 lots of time and waiting until you have better
6 information, and that not necessarily says that you
7 have to make a firm decision before the longest lead
8 time.

9 Q. So in addition to deferring your
10 request for approvals today because of future
11 uncertainty you are not even prepared to tell me that
12 Hydro will make a decision about the future supply
13 facility in time safely to meet the required in-service
14 date as you now expect that at 2009?

15 A. We expect to -- at each stage of
16 planning we will be looking at the full range of
17 options and their lead times and the risks that are
18 involved in making a decision or not making a decision.

19 Q. In other words, you still haven't
20 decided today whether you are necessarily going to
21 commit to making a decision on the future supply
22 options in time to meet your in-service date?

23 A. We will plan to meet the load in a
24 way which we believe is reliable and dependable and low
25 cost, and it may or may not involve making a commitment

1 to a long lead time nuclear option; it may involve a
2 longer lead time fossil option.

3 Q. I understand that, but you first have
4 to make the decision between the two, between nuclear
5 and fossil; correct? That is the first step?

6 A. And other technologies.

7 Q. That's right. And as long as when
8 you make that decision CANDU is something that you have
9 under consideration you are constraining yourself
10 timewise if you don't make that decision in the
11 1994-to-1995 time period?

12 A. With these lead times it is over a
13 longer period, but if you delay the decision then that
14 should be something you do consciously in planning--

15 Q. Yes.

16 A. --to say I don't need to make that
17 decision now; I will make the decision later. And you
18 do that with your eyes open, recognizing that there may
19 be some risk associated with that, or you may not make
20 that decision.

21 It is just that it is very hard in 1992
22 to say exactly how planning is going to unfold in '94
23 or '95. We have seen how things can change over a few
24 years.

25 Q. Would you agree with me this far, Mr.

1 Snelson, that certainly in preparing the DSP you worked
2 with the longest, the long end of the range in terms of
3 your lead times? You planned to apply for approvals
4 and commence construction on a basis consistent with
5 being at the upper end of the ranges?

6 A. I don't believe we did. I think if
7 you look in -- I want to check in Exhibit 3. If you
8 look at Exhibit 3--

9 Q. Yes?

10 A. --page 15-6. It shows a total lead
11 time for option 11, which is the 4 by 881 CANDU, of
12 eight to 14 years.

13 Q. Yes?

14 A. And certainly we were planning on
15 upper load growth and in-service date of 2002, which
16 was less than 14 years after 1989.

17 Q. Well, that is because you couldn't
18 start any earlier.

19 Let's look at one of the ones which isn't
20 time constrained, Mr. Snelson. Let's look at, for
21 example, if you look at your need date, your in-service
22 date under the lower, which is 2009, you are commencing
23 your definition work back in 1990 even; correct?

24 A. I'm sorry, I was not paying
25 attention. I should have been.

1 Q. If you look at your in-service date
2 under the lower forecast?

3 THE CHAIRMAN: Where are you now?

4 MR. MARK: I'm sorry, Mr. Chairman. I am
5 now on -- Mr. Snelson, I think, was also referring to
6 page 18-3 of Exhibit 3. Is that correct, Mr. Snelson?

7 THE CHAIRMAN: You didn't refer to it,
8 but he may have been.

9 MR. SNELSON: No, I was not actually.

10 MR. MARK: Q. Oh. That is where I had
11 the in-service dates from. Where do you have them
12 from?

13 MR. DALZIEL: A. I might be able to be
14 of assistance here. And I am looking at page 8-3 of
15 Exhibit 3?

16 Q. Yes?

17 A. If we look at the very last line on
18 that page, that is CANDU "B", that would be what you
19 referred to as an unconstrained option.

20 Q. Yes?

21 A. The EA would be submitted as shown
22 here in 1996 in time to meet upper, 2007.

23 Q. Yes?

24 A. That would be a difference of 11
25 years.

1 Q. And what is it from when you commence
2 your definition phase work rather than file the EA,
3 which I suggest is the more appropriate date. It is 13
4 years; is it not?

5 A. Oh, yes. That's right, 13 years.

6 Q. Yes. On a facility which has a range
7 of eight to 14 years; correct?

8 A. Yes.

9 Q. And when that CANDU "B" is the second
10 in the series would it be fair to suppose, Mr. Dalziel
11 that there would be some time saving associated with it
12 being the second application for approval for that
13 facility?

14 A. There may in practice, but I don't
15 recall that that was an assumption at the time.

16 Q. Now, Mr. Snelson, there is nothing in
17 the obtaining of approvals today which would oblige you
18 to commence definition work today, is there, if you
19 requested approvals for major new supply facilities?

20 MR. SNELSON: A. I don't believe so.

21 Q. All right. So if your concern is
22 that you avoid spending money on the definition phase
23 before you felt a decision was appropriate, that
24 concern can be accommodated even if you obtain
25 approvals today; correct?

1 A. Yes.

2 Q. Now, Mr. Snelson, if you can turn
3 with me, please, to Exhibit 452, and in particular if
4 you could turn, please, to page 21, I want to refer
5 particularly to Section E. Do you see that at the
6 bottom selection of the appropriate planning approach?

7 A. Yes.

8 Q. And that, I take it, sets out in a
9 concise form the reasons why you chose planning around
10 the median as opposed to planning to the upper?

11 A. That summarizes some of the reasons,
12 yes.

13 Q. Well, are there additional reasons
14 Mr. Snelson? The heading says "Selection of the
15 Appropriate Planning Approach", and it is in the
16 chapter which describes this choice.

17 [12:45 p.m.]

18 Does it accurately describe the reasons
19 or does it not?

20 A. I believe it summarizes the reasons.

21 Q. And if we look at the sentence which
22 appears on page 21, and let me read you the appropriate
23 part, Mr. Snelson, it says:

24 The above analysis suggests that cost
25 reliability and environmental

1 considerations do not lead to a clear
2 chose on the approach to planning.
3 Ontario Hydro judges that it is less
4 likely that load growth will be at the
5 upper forecast in the near future, and
6 that if upper load growth is being
7 reached in a few years' time Ontario
8 Hydro can respond to the short-term
9 options.

10 Now, Mr. Snelson, when dealing with load
11 forecasts in other panels, we have generally made the
12 division between five years and longer as being
13 short-term and long-term. When you say in the near
14 term am I safe in saying that's the type of time frame
15 you are looking at when you say near future?

16 A. I don't know whether the number is
17 that specifically defined but it seems a reasonable
18 indication.

19 Q. And, Mr. Snelson, would you agree
20 with me that your ability to make some judgment about
21 where you will be in load forecast within, say, the
22 five-year time period, doesn't tell you an awful lot
23 about where you are likely to be on the load forecast
24 in 10 or 12 years from now?

25 A. I think we described in our direct

1 evidence that we had some concerns that the upper load
2 forecast line had a less than 10 per cent probability
3 in the near term because of the short-term effects of
4 the recession, and we then went on to indicate that we
5 believe that the bandwidth is reasonable as the 90th
6 percentile for the long-term. So I think to answer
7 your question, yes.

8 Q. All right. And on the next page you
9 go on to say:

10 On balance it was concluded that the
11 flexibility embodied in the approach of
12 planning around the median is the more
13 appropriate approach for demand/supply
14 planning at this time.

15 Mr. Snelson, would you agree with me that
16 a planning to the median approach does not necessarily
17 entail more flexibility than a planning to the upper
18 approach?

19 A. This is a planning around the median
20 approach.

21 Q. Yes, fine.

22 A. And if we were just planning to the
23 median, then without consideration of flexibility, then
24 clearly it wouldn't give you flexibility.

25 Q. Would you agree with me that planning

1 around the median does not necessarily entail more
2 flexibility than planning to the upper?

3 A. It entails different kinds of
4 flexibility, so it's not necessarily more.

5 Q. But each approach can be equally
6 flexible, depending upon the components and
7 contingencies you allow for?

8 A. They can each have a range of
9 flexibilities.

10 Q. And planning around the median does
11 not entail a greater range of flexibility necessarily
12 than planning to the upper?

13 A. It entails a greater flexibility in
14 the direction of requiring less expenditures to prepare
15 for upper load growth circumstances that may or may not
16 come about.

17 Q. Other than that consideration of the
18 cost, in other words, are you paying for that
19 flexibility too much, neither approach entails greater
20 or lesser flexibility than the other?

21 A. I think we indicated in our direct
22 evidence that we see planning around the median as an
23 alternative way of approaching the managing uncertainty
24 to the seeking of major supply approvals based on upper
25 load growth.

1 Q. Yes. My question was, and I would
2 like you to confirm, Mr. Snelson, that neither approach
3 necessarily involves greater or lesser flexibility than
4 the other?

5 A. I think I have indicated they both
6 cover a range of flexabilities.

7 Q. So, there is nothing in fact
8 inherently more flexible about planning around the
9 median?

10 A. It has a greater flexibility in the
11 direction of being able to reduce and accommodate lower
12 growth if that was to occur.

13 Q. And so now you are disagreeing with
14 me.

15 A. Well, I'm indicating, I believe, the
16 greater flexibility that is being indicated here. And
17 another aspect I think of the greater flexibility
18 that's being indicated here is the flexibility to take
19 on additional, for instance, non-utility generation or
20 other things that might be offered.

21 Q. Mr. Snelson, I am not now talking
22 about the particular plan you have developed, I am
23 talking about the planning approach.

24 A. Yes.

25 Q. So leaving it at that stage for the

1 present discussion, would you not agree with me that
2 neither approach is necessarily more or less flexible
3 than the other?

4 A. Neither one is necessarily more or
5 less flexible.

6 Q. And to the extent you consider your
7 planning around the median plan to be more flexible
8 than the DSP Plan, that's a reflection of the
9 components you have chosen to put in those respective
10 plans?

11 A. Yes.

12 Q. Am I correct, Mr. Snelson, that
13 flexibility was indeed one of the primary criteria in
14 the demand/supply planning strategy?

15 A. Yes, I believe so.

16 Q. And in your strategy that was
17 reflected in strategy No. 2.2.4? You can find that in
18 Exhibit 3, Appendix A.

19 A. That is correct.

20 Q. And that strategy provides:

21 Preparations for demand and supply
22 options will be undertaken in time to
23 meet the upper load projection while
24 avoiding the cost of premature
25 commitment.

1 So when you developed the demand/supply
2 planning strategy, that was considered, I take it, the
3 optimal way of obtaining flexibility?

4 A. That strategy generally describes the
5 way in which we try to obtain flexibility and we
6 believe that we have applied that then and now.

7 Q. Let's just explore that for a moment,
8 Mr. Snelson. As I read strategy 2.2.4, it says clearly
9 that you will undertake preparations for your options
10 in time to meet upper load projection; correct?

11 A. Yes.

12 Q. And as I understand your Update, it
13 is specifically premised upon not doing that, but
14 filling in with options you would not necessarily
15 otherwise use; correct?

16 A. The Update Plan relies upon a variety
17 of options described in the response portfolio, and we
18 believe that we have a sufficient without taking
19 further steps to prepare for them now.

20 Q. Would you agree with me that even
21 under the revised forecast, or let's take the revised
22 forecast that all this is based upon, under the upper
23 load growth scenario you would, ideally your best case,
24 bring a major supply facility on stream to meet the
25 need date?

1 A. We always have to recognize when
2 planning for upper load growth that it is only one of a
3 large family of circumstances that can arise. And so,
4 while strategy 2.2.4 says prepare for demand and supply
5 options in time to meet the upper load growth, it
6 doesn't say to prepare for an optimally economically
7 designed set of options to meet the upper load growth.
8 So, the requirement here is that we have enough that we
9 will be able to maintain a reliable supply to our
10 customers.

11 Q. Under the upper load projection, and
12 we know what that is, Mr. Snelson, it's the upper line
13 defined on all the graphs we have been looking at.
14 It's not something else; correct?

15 A. That is the upper projection that we
16 have been using, yes.

17 Q. And I have taken it from your
18 evidence thus far that under the upper load projection
19 underlying the Update, you should be commencing
20 preparations today for a major new supply facility?

21 A. We believe that it is adequate to
22 rely upon combustion turbines and combined-cycle units
23 and non-utility generation, things that are in that
24 response portfolio.

25 Q. I appreciate that's what you believe

1 today, Mr. Snelson, but I am looking at strategy 2.2.4,
2 and would you not agree with me that what that tells us
3 is that you should be starting work on the major new
4 supply facility today?

5 A. If we were to be planning for the
6 most economical way of supplying the upper load growth,
7 that is possibly true. But we always have to bear in
8 mind that our preparations for upper load growth are to
9 enable us to get through on upper load growth, not
10 necessary to have the most economical plan under upper
11 load growth.

12 Q. So you are suggesting to me, Mr.
13 Snelson, that not even in the DSP did it contemplate
14 that flexibility would be accommodated by obtaining
15 approvals today and dealing with commitments later?

16 A. Certainly the DSP sought approvals
17 and recognized the commitments might not follow
18 immediately after the approvals.

19 Q. And that was of the specific way that
20 2.2.4 was implemented in the DSP?

21 A. That is correct.

22 Q. And that is set out, is it, Mr.
23 Snelson, at page 19-1 of Exhibit 3?

24 A. Whereabouts on page 19-1?

25 Q. Second paragraph, left-hand column.

1 A flexible program is required by
2 Ontario Hydro because of the
3 uncertainties associated with the various
4 components of the Demand/Supply Plan.
5 For example, if the load is higher than
6 the median forecast, action must be taken
7 now to maintain reliable supply.
8 Similarly, if the load is lower than the
9 median forecast or contributions from
10 demand management and non-utility
11 generation are higher than forecast,
12 commitment to the construction of major
13 new supply facilities can be delayed.

14 A. Yes.

15 Q. And am I correct, Mr. Snelson, that
16 the major contributors to the change to the Update we
17 have are a lower load forecast and differing
18 contributions from demand management and non-utility
19 generation?

20 A. It's mostly the latter two.

21 MR. MARK: Mr. Chairman, this may be a
22 convenient point to break to for lunch.

23 THE CHAIRMAN: We will break until 2:30.

24 THE REGISTRAR: Please come to order.

25 This hearing will adjourn until 2:30.

1 ---Luncheon recess at 1:00 p.m.

2 ---On resuming 2:33 p.m.

3 THE REGISTRAR: Please come to order.

4 This hearing is again in session. Be seated, please.

5 MR. MARK: Thank you, Mr. Chairman.

6 Q. Mr. Snelson, before the break we were
7 discussing the subject of flexibility, you will recall.
8 Am I correct that when the DSP plans were formulated
9 you tested those plans against a variety of load growth
10 scenarios not just upper, lower and median?

11 MR. SNELSON: A. Yes.

12 Q. In particular you also tested them
13 against the branch upper and branch lower forecasts?

14 A. Yes.

15 Q. Those are forecasts which assume that
16 the load growth follows the median path for five years
17 and then departs in the case of the upper towards the
18 upper and the opposite in the case of the branch lower?

19 A. I would have to check how long they
20 followed the median but in principal, that's correct,
21 yes.

22 Q. As I understand it, generally you
23 test against those scenarios to determine how robust
24 and resilient your plan is?

25 A. Yes.

1 Q. One of the things you want to do or
2 to examine when you use those varieties of load growth
3 scenarios is to try to minimize or avoid the cost of
4 over-commitment?

5 A. Yes.

6 Q. I take it then, that when the DSP was
7 prepared you had done the analysis and were satisfied
8 that the final candidate plans you put forward did a
9 good job of minimizing or avoiding the costs of
10 over-commitment?

11 A. Yes.

12 Q. Can we conclude from that, Mr.
13 Snelson, that you saw in those plans any of the three,
14 no undue risk in incurring costs of obtaining approvals
15 and incurring some definition phase costs?

16 A. We considered those costs were
17 justifiable.

18 Q. In other words, the cost of doing
19 that, did not outweigh the cost of not being prepared
20 with the base load options for the higher than median
21 load growth?

22 A. That's correct.

23 Q. As I understand the analysis you have
24 done with respect to the Update, we similarly have a
25 situation here where the costs of obtaining those

1 approvals and incurring some definition phase costs
2 similarly do not outweigh the cost of not obtaining the
3 approvals today?

4 A. I'm sorry, can you repeat that again?

5 Q. You are familiar with Exhibit 452D?

6 A. 452D, yes.

7 Q. That's the analysis of the cost of
8 over and under-planning?

9 A. Yes.

10 Q. As I understand that Exhibit the
11 conclusion is that the cost of doing one - either the
12 over-planning or the under-planning - do not outweigh
13 the cost of the other?

14 A. Perhaps I will let Mr. Dalziel deal
15 with that question.

16 Q. Is that a fair summary?

17 MR. DALZIEL: A. Yes it is.

18 Q. So when we had a situation where the
19 costs of over-planning did not outweigh the cost of
20 under-planning in the DSP, you decided to include the
21 approvals for the upper load growth scenario, correct?

22 A. In 1989?

23 Q. Yes.

24 A. Yes.

25 Q. Today we have a situation where again

1 the cost of over-commitment or over-planning doesn't
2 outweigh the cost of under-planning but you have gone
3 the other way, is that correct?

4 A. That's correct.

5 Q. Mr. Dalziel, would you agree - I may
6 have asked this before, I apologize if I have - would
7 you agree with me that obtaining a requirement and
8 rationale approval from this Board does not oblige you
9 to incur the definition costs immediately?

10 A. That's right.

11 Q. You could --

12 THE CHAIRMAN: Or at all for that matter.

13 MR. MARK: Yes.

14 Q. You could simply have that approval
15 in your portfolio of responses that you would utilize,
16 having regard to what happens with load growth in the
17 future?

18 MR. DALZIEL: A. That's correct.

19 Q. My suggestion, Mr. Dalziel, having
20 those approvals in that portfolio of responses
21 necessarily gives you more flexibility in your ability
22 to respond?

23 A. It's one way of providing
24 flexibility.

25 Q. It would certainly increase your

1 flexibility, would it not?

2 A. It would tend to increase your
3 flexibility, yes.

4 Q. Of course, Mr. Dalziel, in neither
5 case are we concerned about responding to the median
6 because in both cases you are making adequate provision
7 for the median, correct, both in the DSP and in the
8 Update?

9 A. Yes.

10 Q. So this concept of increased
11 flexibility has no application or isn't relevant to the
12 question of whether and how well you can meet median
13 load growth, correct?

14 A. Generally, that's correct.

15 Q. So really what we are talking about
16 when we address the issue of flexibility, is how well
17 equipped you are to meet outcomes other than the median
18 and in particular the higher than median load growth,
19 correct?

20 A. It's outcomes other than the median
21 the higher, as well as the lower.

22 Q. Would it be fair to say generally
23 speaking when you have been looking at the question of
24 flexibility you are looking at it in the context of
25 responding to higher than expected load growth. That

1 has been the focus of the analysis, has it not?

2 A. No, not necessarily.

3 Q. Well, the response portfolio that is
4 so commonly referred to, that's your array of options
5 for dealing with higher than median load growth, is it
6 not?

7 A. The response portfolio discusses how
8 to deal with higher or lower load growth and also how
9 to deal with changes in costs and various options. It
10 discusses a variety of types of flexibility.

11 Q. But in any event, Mr. Dalziel, what
12 we are talking about is flexibility with respect to
13 meeting the other than the median growth scenarios?

14 A. That's correct.

15 Q. Now, if we can turn back to page 452,
16 Mr. Snelson, let me address to you. If there is
17 somebody more appropriate, I would be happy to deal
18 with them, but I'm going to start with you. If we can
19 turn to page 22. I'm continuing now, Mr. Snelson, with
20 the paragraph we were looking at earlier at the top of
21 the page.

22 MR. SNELSON: A. Yes, I see it.

23 Q. I'm concerned this time with this
24 passage, Mr. Snelson, where it says:

25 This approach explicitly accepts more

1 risk and is buttressed by a response
2 portfolio of credible and reasonably
3 economic short-term responses supported
4 by a public review and approvals process.

5 My first question, Mr. Snelson, is what risk is being
6 referred to in terms of the explicit acceptance of more
7 risk?

8 A. To the extent that some of the
9 options in the resource portfolio were available in the
10 previous planning process and that we have foregone the
11 approvals that would be requested for nuclear or
12 coal-fired plant, then we are accepting some risks
13 associated with those options.

14 Q. So the risk, then, stems from your
15 not having those options available to you in your
16 response portfolio?

17 A. Yes.

18 Q. I take it when you say this approach
19 explicitly accepts more risk, you are comparing it to
20 the planning to the upper approach?

21 A. Yes.

22 Q. Now, you have indicated that the
23 risks have to do with the unavailability of the
24 approvals for those options. What do those risks
25 translate into in terms of your customers, what is the

1 risk they face?

2 A. I don't think we have a
3 quantification of it, but it is a risk that a
4 combination of high load growth and, for instance, high
5 natural gas prices, might cause some of the things that
6 are relied upon in the response portfolio to be more
7 expensive than we had thought they would be.

8 Q. So, one of the risks then is a higher
9 cost in certain scenarios?

10 A. That's correct.

11 Q. Is there a risk of outages?

12 A. I don't believe there is any
13 significant risk of outages more significant than with
14 the previous approach.

15 Q. Have you done a reliability review of
16 the Update plans you have put forward to assess that?

17 A. We have done a reliability study of
18 the Update plans, but I don't believe that it would
19 capture the uncertainties that you are referring to.

20 Q. Could you produce that for us?

21 A. There is not, to my knowledge, a
22 nice, neatly documented form of those studies.

23 Q. How were they done then? Just give
24 me some idea what it is that was undertaken.

25 A. There was a frequency and duration

1 reliability study done of the managed surplus nuclear
2 update case.

3 Q. So what is it that wasn't done?

4 A. There isn't a neatly bound report
5 discussing those studies. There are computer runs and
6 a few figures and so on.

7 Q. Well, I am fortunate to have somebody
8 who doesn't need things neatly bound to understand
9 them. I wonder, Mr. Snelson, if you could produce it
10 in whatever form you have in terms of your computer
11 runs and whatever other documents put together to
12 comprise this study?

13 A. I believe we could do that. It might
14 take a little time.

15 Q. That's fine. Can we have an
16 undertaking number for that Mr. Chairman?

17 THE REGISTRAR: 684.1.

18 ---UNDERTAKING NO. 684.1: Ontario Hydro undertakes to
19 provide the frequency and duration
20 reliability study of the managed surplus
nuclear update case.

21 MR. MARK: Q. Mr. Snelson, as I
22 understand it, one of the items in your response
23 portfolio are CTUS; is that correct?

24 MR. SNELSON: A. That is correct.

25 Q. Have you made some estimate of when

1 you might require those under various load scenarios?

2 A. I believe there is one illustration
3 of that in the upper load growth case that was included
4 in our witness statement.

5 MR. DALZIEL: A. I believe that was
6 Exhibit 646.

7 Q. Yes.

8 A. 646 under attachment D.

9 Q. I'm sorry, D?

10 A. D.

11 Q. Do we have a page reference?

12 A. Are you looking for where and when
13 CTUs would come into --

14 Q. Yes.

15 A. Page D1-4.

16 Q. Yes, this is a table headed table A1,
17 Load and Capacity Table, DSP 1992 Update, Load Growth
18 Nuclear and Fossil.

19 A. Yes.

20 Q. What does this tell me about the CTU,
21 about when it might be expected under the upper load
22 growth scenario?

23 A. What we have shown here is that in
24 the year 1996, if you back up, across the top of the
25 table are years and if you go across to 1996 and then

1 come down that column, and come down that column below
2 until you see the figure 13-44.

3 [2:50 p.m.]

4 Q. Yes.

5 A. And it is indicating -- if we read
6 from the left-hand side of the page?

7 Q. Yes?

8 A. That is indicating that that could be
9 an oil-fired CTU or a number of oil-fired CTUs.

10 So the answer to your earlier question,
11 1996 would be the date under upper load forecast that
12 we have illustrated in this case when some CTUs could
13 be added, and as I said in my direct evidence in
14 describing this case, we noted that these could also be
15 made up by non-utility generators as well, a
16 possibility for that.

17 Q. What technology would those NUGs be?

18 A. The NUGs?

19 Q. Yes.

20 MR. SNELSON: A. They would probably be
21 cogeneration or combined cycle.

22 Q. And in view of this projection of
23 your possible need date -- or, I'm sorry, let me ask
24 you this. When was the earliest date you had for a CTU
25 under the DSP?

1 MR. DALZIEL: A. 1993.

2 Q. Now, you have no approvals now
3 requested for CTUs in this hearing; is that correct?

4 A. That's correct.

5 Q. And in view of the fact that your
6 CTUs are in your response portfolio why are there no
7 requests being made for CTU approval at this time?

8 A. The main reason is, going back to
9 some of the earlier figures that I showed in my direct
10 evidence where we could see that the need date for new
11 major supply, at least under the median load growth
12 condition, has moved out to 2010, but in addition to
13 that, there is a substantial surplus or projected
14 surplus that has a lot of the capacity requirements
15 between the median and the upper covered out until
16 about the year 2001 and even beyond.

17 Q. No, I understand that, but under the
18 upper scenario and even somewhere between median and
19 upper there is some possibility that you are going to
20 need one of your response options earlier than at the
21 median date. That follows, doesn't it?

22 A. Yes, that is possible.

23 Q. As I understand the rationale for
24 your new plan, it is that you have to have, in your
25 portfolio, a number of both economic and reliable and

1 credible response options to cover you if you run into
2 a higher load growth scenario; correct?

3 A. That's right.

4 Q. And the CTUs are one of the important
5 components of that; correct?

6 A. That's right.

7 Q. But you are not seeking approval from
8 this Board to proceed with one of those important
9 elements of your responsibilities portfolio; correct?

10 A. That's correct. Now, I also said in
11 my direct evidence that this upper load forecast, as we
12 have used it here, is likely to be overstated in the
13 near term, and, as you will recall, I was referring to
14 the starting point of this load forecast and comparing
15 that to our 1991/92 winter peak.

16 Q. Yes?

17 A. And our starting point at this time
18 or this upper load forecast is 2,300 megawatts higher
19 than what actually has been our experience this past
20 winter.

21 Q. Yes. But if we experience some
22 departure from median load growth it is likely -- it
23 may not be the upper, but it could be somewhere in
24 between, could it not?

25 A. That's right.

1 Q. Right. Now, as I understand it, with
2 the DSP Update cases you haven't modelled them with the
3 branch upper and branch lower forecasts; correct?

4 A. Correct.

5 Q. So you have no way of telling us, I
6 take it, as to what the range of the need dates would
7 be in some intermediate upper load growth scenario.

8 A. We have some indication of that from
9 I believe it is page 25 of Exhibit 682, the overheads
10 that we used for Panel 10.

11 Q. What does this tell us, Mr. Dalziel?

12 A. This figure is showing us the
13 probability that the projected load-meeting capability
14 would exceed a load within the load forecast bandwidth
15 in a given year.

16 So for example, if we look at the 70th
17 percentile of the load forecast, so that would be
18 roughly halfway between the point -- well, it would be
19 halfway between .6 and .8 on the left-hand scale.

20 Q. Yes.

21 A. If you can picture where that point
22 is and then run across this figure what that is
23 indicating is that under the Update the projected
24 load-meeting capability is at least always exceeding 70
25 per cent of the load forecast bandwidth.

1 So loads up to and including the 70th
2 percentile of the load forecast bandwidth are covered
3 out to about the year at least 2005 where we see then
4 that the projected load-meeting capability would be
5 crossing that 70th percentile.

6 Q. So, do I take it from that, Mr.
7 Dalziel, that this tells us that 70 per cent of the
8 time or there is 70 per cent confidence that you are
9 not going to need the CTU over that time period?

10 A. Well, it is saying that, but it is
11 saying a little more than that. It is saying in the
12 years up to 1996 where we see that line drips down--

13 Q. Yes?

14 A. --that substantially more than 70 per
15 cent is covered.

16 In the table D1-4 of Exhibit 646 that we
17 were looking at earlier, it was indicating the CTUs
18 would be installed the year 1996, and we see from this
19 figure why those CTUs were being added. They were
20 responding to that -- the dip that we see in the
21 projected load-meeting capability.

22 But as we move beyond that date, 1996,
23 without those CTUs we see that the priority in
24 contracted options that make up the projected
25 load-meeting capability are again providing coverage of

1 a substantial portion of the load forecast bandwidth.

2 Q. And now do I read this correctly, Mr.
3 Dalziel, that with respect to that point in 1996 it is
4 practically, for all practical purposes, the same as it
5 was at the DSP?

6 A. In that particular year.

7 Q. That's right.

8 A. But you see that the 1989 DSP from
9 that point in time drops fairly consistently, whereas
10 in the Update case with the priority in contracted
11 options that we are again recovering quite a bit of
12 capability of meeting higher than expected load, load
13 above the median load forecast.

14 Q. So what you are telling me, Mr.
15 Dalziel, is that within the response portfolio with
16 these options you have made a further judgment that
17 given that 70 per cent figure it is not necessary for
18 you to apply for approval for a CTU today?

19 A. It is based on that, and it is based
20 on what is happening or what we are seeing in this
21 figure, both before that particular date of 1996 and
22 afterwards. But essentially the answer is "yes".

23 Q. So again, your response portfolio,
24 then, is not necessarily equipped to meet the upper
25 load growth, but it is equipped to meet what you think

1 is a reasonable chance that you will get the upper load
2 growth that would require that option?

3 A. Yes, and also given what I said
4 earlier about the upper load forecast is likely
5 overstated in the near term.

6 MR. SNELSON: A. The other factor, Mr.
7 Mark, is that CTUs are not the only response in the
8 portfolio in case the load is higher than the
9 capability of the existing system and the preferred and
10 contracted options. There are other options, such as
11 non-utility generation, in the response portfolio that
12 might very well be used before we were to go to CTUs.

13 Q. I understand that. Mr. Snelson, I
14 want to turn back to a subject we were discussing a
15 moment ago, and that is the testing of the candidate
16 plans against a variety of the demand scenarios. You
17 recall in the DSP you used the five scenarios,
18 including the branch forecasts?

19 A. Yes.

20 Q. And as we discussed before, I think,
21 as one of the purposes of doing so, to test the ability
22 of the plans to respond to unexpected and rapid changes
23 in demand.

24 A. Certainly it is to test the ability
25 of the plans to respond to unexpected changes in

1 demand.

2 Q. And rapid changes in demand; is it
3 not?

4 A. The five scenarios that were looked
5 at corresponded to upper, lower and median, which had
6 whatever changes in demand were there to define the
7 bandwidth. The branch upper and the branch lower were
8 comparable in their degree of rapidity of change.

9 Q. If you could turn, please, Mr.
10 Snelson, to page 411 of Exhibit 6.

11 Do you have it, Mr. Snelson?

12 A. Yes, I do.

13 Q. About one third of the way down the
14 page there is a two-line paragraph. It reads as
15 follows:

16 The branch upper and branch lower
17 forecasts help highlight the case's
18 agility, their responsiveness to an
19 unexpected rapid change in demand in the
20 mid-1990s.

21 So is it not intended, Mr. Snelson, to
22 deal with unexpected and rapid changes?

23 A. Well, I characterize them as having a
24 similar degree of rapidity as the upper and lower
25 scenarios. And if you look at page 4-13 in Exhibit 6--

1 Q. Yes?

2 A. --then you can see the plotting of
3 the five scenarios.

4 Q. That's right. And isn't the hallmark
5 of the branch upper and branch lower, Mr. Snelson, that
6 they follow the median for a considerable period of
7 time and then depart?

8 A. And that is the unexpected aspect.

9 The main rationale for doing the branch
10 upper and branch lower was to see the effect of long
11 lead time commitments, and the most significant one was
12 the branch lower in that when you were seeking approval
13 for long lead time option then you wanted to consider
14 the possibility that you would have committed to the
15 long lead time option and then the load growth would
16 drop off so that the long lead time option was not
17 really justified, and to see how badly that would hurt.

18 Q. As I read this, Mr. Snelson, you want
19 to use those to check the responsiveness of the plan to
20 both what happens in the branch upper and the branch
21 lower. Those are both concerns, are they not?

22 A. The branch upper indicates the
23 circumstance of not having to commit to the long lead
24 time option and how that would hurt; the branch lower
25 indicates the effect of having committed a long lead

1 time option and whether that would hurt.

2 Q. That's right. And I think you have
3 agreed with me on this already, but let me just check.
4 The branch upper and branch lower assume following the
5 median for the first five years and then departing;
6 correct?

7 A. In the '89 Demand/Supply Plan in
8 Exhibit 6, page 4-12, the first year of deviation was
9 1996.

10 Q. That's right. Having started in
11 1989?

12 A. That's correct.

13 Q. That's right. So, in fact, in this
14 one you were looking at about a seven-year period of
15 matching, of tracking median, and then departing after
16 that; correct?

17 A. It is '89 to '96, about seven years,
18 six or seven years.

19 Q. And if you look now at page 413, Mr.
20 Snelson, I am just looking again at the slopes there of
21 the five branches. I suggest to you that it is clear
22 that the slope of the branch upper is greater than the
23 slope of the upper.

24 A. It was actually generated not to have
25 a higher slope but to have a shift in time, so the way

1 it was generated was if you were to have followed the
2 median load growth to 1995 and we were applying a load
3 forecast bandwidth methodology at that time, in the
4 same way as we did in '89 but with that much history,
5 then what would the bandwidth look like from that date?

6 So the shape of that curve was intended
7 to be similar to the basic bandwidth starting in '89
8 but shifted out in time.

9 Q. Well, but the consequence of giving
10 yourself less time to come to the same end point is you
11 have a steeper slope. It is that simple, isn't it?

12 A. Because the bandwidth at that time
13 had steeper slopes followed by shallower slopes.

14 Q. Now, in Exhibit 452D, Mr. Snelson,
15 you gave the analysis underlying your conclusion that
16 there was no -- that neither planning around the median
17 nor planning to the upper had a clear economic
18 advantage over the other. That is where did you that
19 analysis; right?

20 A. That's correct.

21 Q. And in that analysis you made the
22 assumption that it would take Ontario Hydro five years
23 to recognize a trend and conclude that a response to a
24 higher than median load growth was necessary; correct?

25 MR. DALZIEL: A. That's correct.

1 Q. And you therefore did your
2 calculations contained in that document on the basis
3 that it would become apparent in 1997, if we use today
4 as the starting point, that a commitment to an
5 additional resource was necessary; correct?

6 A. That in 1997 you would realize that,
7 yes.

8 Q. Now, if we go back to table 4-13 in
9 Exhibit 6, if we were to follow the branch upper
10 according to this we could go for seven years without
11 seeing any divergence from the median yet be on the
12 doorstep of a significant shift to upper load growth.

13 Is that not correct, Mr. Snelson?

14 [3:10 p.m.]

15 MR. SNELSON: A. At any point in time
16 you could be on the verge of starting a higher load
17 growth trend or a lower growth trend.

18 Q. That's correct. But if we look at
19 just this example, you could be, sometime after the
20 year 2000, until you would recognize that there is a
21 trend towards arriving at the upper load growth period
22 at the end of the planning horizon.

23 A. If the load were to be following that
24 line, it would take you sometime to recognize, and it
25 could be after the year 2000.

1 Q. So if the load was to follow that
2 line, in fact we may be looking at having to cover 10
3 years before we make a response rather than five years
4 as suggested in 452D.

5 A. 452D was looking at the length of
6 time it would take to respond to an upper load growth
7 close to the upper load growth scenario. Obviously,
8 the slower you approach that upper load growth scenario
9 then the longer time it would take you to recognize but
10 also the more time you have to respond.

11 Q. Sorry, I am not sure I followed the
12 last conclusion.

13 A. If you have in front of you page 4-13
14 of Exhibit 6; then if the load was to be following the
15 upper load growth trend--

16 A. Yes.

17 Q. --then you would presumably recognize
18 it and act upon it in the early to mid 1990s because
19 the deviation is quite significant.

20 Q. Yes.

21 A. If the load was to be following a
22 branch upper trend, then it's true as you suggest that
23 it may be after the year 2000 before you recognize it
24 and respond to it. But you also are responding to a
25 lower load growth for most of the time period. The

1 back end -- it may approach but through the period 2000
2 to 2010, it's significantly lower.

3 Q. But if you are not going to respond
4 to it until let's say 2005, recognize that it exists,
5 you are clearly within just a few years of that going
6 to be in a situation where your load significantly
7 exceeds the median; correct?

8 A. If you are not to recognize it until
9 2005, yes.

10 Q. And I take it, Mr. Snelson, that
11 unlike in the DSP, because you haven't done this branch
12 upper and branch lower you can't provide us with any
13 insights as to the cost of over-commitment and
14 under-commitment or over-planning and under-planning in
15 your new plans?

16 A. We have provided some analyses in
17 that Exhibit 452D, but it isn't an analysis of branch
18 upper and branch lower.

19 Q. And in addition to the -- looking at
20 the cost of under and over-commitment, Mr. Snelson, you
21 have used those branch upper and lower forecasts, all
22 the forecasts for a variety of analytical purposes, do
23 you not?

24 A. We did in '89, yes.

25 Q. And just for example, when you looked

1 at your energy production you ran all five growth
2 scenarios; correct?

3 A. Yes.

4 Q. And when you looked at your emissions
5 and wastes you analyzed all five scenarios?

6 MR. DALZIEL: A. The detailed
7 evaluations of emissions and wastes was done for the
8 median and upper load forecast for the 1989
9 Demand/Supply Plan.

10 Q. What about your acid gas emissions?

11 A. The acid gas emissions would have
12 been checked while the plans were being formulated, but
13 I don't recall that we presented information on the --
14 well, just a moment, let me check.

15 Q. Look at page 7-22.

16 A. I was just thinking of Chapter 7 in
17 Exhibit 6.

18 Q. Yes.

19 A. For the acid gas picture we did look
20 at the five load forecasts including the branch upper
21 and branch lower in 1989.

22 Q. And, Mr. Snelson, you similarly used
23 all five cases for assessing the costs of the plans?

24 MR. SNELSON: A. Yes.

25 Q. To determine your transmission

1 requirements?

2 MR. DALZIEL: A. Yes. That's in chapter
3 5 of Exhibit 6.

4 Q. And you look at all those results, do
5 you not, Mr. Dalziel, in coming to some conclusion
6 about the relative merits of the various plans that you
7 have developed as candidate plans?

8 A. Yes.

9 Q. We have been talking some about
10 Exhibit 452 and 452D, I was wondering whether it's Mr.
11 Snelson or Mr. Dalziel best equipped to deal with that.

12 A. You can start with me.

13 Q. If we could just turn to that,
14 please, Mr. Dalziel.

15 Now, on page - it's not numbered - on the
16 second page where you give the approximate approvals
17 costs to 1997.

18 A. Yes.

19 THE CHAIRMAN: I'm sorry, I am lost.

20 MR. MARK: 452D, Mr. Chairman.

21 THE CHAIRMAN: I have 452D. No, I am
22 sorry, I don't.

23 It doesn't seem to be in my binder.

24 Ms. Patterson has confirmed that I am
25 right in this.

1 MR. MARK: Mr. Chairman, I can provide
2 you with another copy. It also appears as
3 interrogatory response 10.26.27.

4 THE CHAIRMAN: I have got it now.

5 MR. MARK: I still have that spare copy,
6 Dr. Connell, if you wish.

7 DR. CONNELL: We are all set.

8 THE CHAIRMAN: I think we have got it
9 now.

10 MR. MARK: Q. Now on the second page,
11 Mr. Dalziel, where you give the approvals costs, can
12 you give us a breakdown of those costs by the various
13 options.

14 MR. DALZIEL: A. I can't do that for you
15 here, but we can probably go back.

16 Q. Could you do that, please. What I
17 would like is the breakdown by option and by year, so
18 for each option I know the annual expenditure.

19 A. Yes.

20 MR. MARK: Could we have an undertaking
21 number for that, Mr. Chairman?

22 THE CHAIRMAN: Yes. If you just tell me
23 again what it is, because I have been fussing around
24 putting the documents together.

25 MR. MARK: It's breakdown of approvals

1 costs contained in Exhibit 542D.

2 THE CHAIRMAN: Yes, with reference to
3 page?

4 MR. MARK: Page 2.

5 THE CHAIRMAN: 2.

6 THE REGISTRAR: 684.2.

7 MR. MARK: Thank you.

8 THE CHAIRMAN: I am looking at the page
9 now for the first time. The approximate approvals cost
10 1987 are... it is in the middle of the page.

11 MR. MARK: Yes.

12 THE CHAIRMAN: What is missing?

13 MR. MARK: What I want is the breakdown
14 of those costs by the options. You will see they are
15 discussing the approval costs for all four options.

16 THE CHAIRMAN: I see.

17 MR. MARK: I want to know the annual
18 pattern for each of the options.

19 THE CHAIRMAN: All right. Thank you.

20 ---UNDERTAKING NO. 684.2: Ontario Hydro undertakes to
21 provide breakdown of approval costs by
22 option and by year contained in Exhibit
542D.

23 MR. MARK: Q. Now, Mr. Dalziel, as I
24 understand it, the in-service dates under Case A,
25 that's on page 2, those are the in-service dates you

1 would expect if you maintained the approach of planning
2 to the upper; correct?

3 MR. DALZIEL: A. Yes.

4 Q. Under the upper load forecast
5 scenario; correct?

6 A. Yes.

7 Q. And when we get to Case B, what you
8 have done is, with respect to one of those options, the
9 IGCC, you have estimated the date that option would
10 come into service under the upper load forecast
11 scenario if you don't obtain approval for it today but
12 must apply after you realize the trend is to the upper?

13 A. Yes.

14 Q. And the way you have done the
15 analysis in Case B is that you have determined what
16 your additional fuel cost is by running a higher cost
17 CTU instead of the lower cost IGCC until you get the
18 IGCC in-service?

19 A. It's more than just the fuel. Using
20 the LUECs, it's representative of the lifecycle costs.

21 Q. You are quite correct. Thank you.

22 And what this of course is intended
23 depict is the costs you incur over those years where
24 you would have had the lower cost supply option but for
25 your decision not to apply for approvals for it today?

1 A. Yes.

2 Q. And in Case A, dealing with the
3 approvals cost, as I understand it, you have assumed
4 that work on all those options begins this year;
5 correct?

6 A. That it begins consistent with the
7 in-service dates that are shown above.

8 Q. And am I correct that you will get,
9 certainly with respect to the IGCC and the CANDU, the
10 impact of not applying for approvals for those today is
11 to delay the in-service dates of both of those from
12 what they would have been under the upper, planning to
13 the upper scenario?

14 A. Yes.

15 Q. So, if you don't plan to the upper,
16 you not only defer the in-service date of the IGCC, you
17 also defer the in-service date of the CANDU; correct?

18 A. The in-service under upper load
19 forecast.

20 Q. Under upper?

21 A. Yes.

22 Q. Correct. And in Case B where you
23 have done the analysis of the cost, do I have it
24 correctly that all you have done is calculated the cost
25 of the deferral of the in-service date of the IGCC?

1 A. Yes.

2 Q. And you have made no allowance in
3 that analysis for the extra cost you incur by having
4 the CANDU delayed by a similar period of time?

5 A. Yes.

6 Q. And am I correct, Mr. Dalziel, that
7 if we are going to do this analysis properly you should
8 be including those costs as well?

9 A. You may include some additional
10 consideration of the impact of delaying the approvals
11 work on those options. At the time this was done it
12 was recognized that the existing system may well be
13 providing more energy, that those other options would
14 have been coming into service.

15 And also that you might, if you are
16 applying beginning in 1997, recognizing you are on
17 upper load growth, you may at the same time then be
18 applying for not one but perhaps two IGCC facilities.
19 So it could also help be making up for the cost
20 difference, or at least the impact of not having the
21 CANDU for 2005 and 2010.

22 Q. But you are only accounting here for
23 the benefits of one IGCC.

24 A. In this analysis, yes.

25 Q. That's right. So if we are using one

1 IGCC, then you don't have the second one to cover for
2 the missing CANDU.

3 A. That's right.

4 Q. So if we are going to do this a
5 analysis consistently I suggest to you, Mr. Dalziel,
6 that you must also include in the costs not only the
7 costs of the IGCC over the CTU, but the cost of the
8 CANDU for the years when it's not available as compared
9 to the other option you run during those years which by
10 definition is going to be more expensive; correct?

11 A. There would be some higher costs.
12 What I was getting at earlier is that recognizing in
13 1997 that you are responding, the cost comparison I
14 guess that you are pointing out, that you could be
15 looking at the impact of not having the CANDUs, that
16 cost comparison may not be against the full cost of
17 utilizing CTUs in that time period. That's because,
18 let's say, for example, the existing system could be
19 working harder to provide some of that energy.

20 Q. Whatever is your supply source,
21 whether it is generically the existing system or
22 whether it is a CTU, surely it's a cost that you can
23 and should account for if we want to have a level
24 playing field on this analysis?

25 A. Yes.

1 Q. And could you redo your calculations
2 for us, obviously not right this instant, Mr. Dalziel,
3 including those costs as well?

4 A. Using this approach?

5 Q. Yes.

6 A. It could be done.

7 Q. All right. And let's specifically
8 deal with some dates on this, in-service dates, so we
9 have it straight, Mr. Dalziel.

10 Dealing with the in-service dates for the
11 Case B where you haven't asked for approvals today.
12 Now, firstly, Mr. Dalziel, you say the IGCC would
13 become available in 2005?

14 A. In this analysis, yes.

15 Q. Where have you got the year 2005
16 from?

17 A. We assume that an eight-year lead
18 time for the IGCC facility when this analysis was put
19 together. If we were redoing that we would use a
20 seven-year lead time, which is consistent with the lead
21 time that we are now using in planning for the IGCC
22 facility.

23 But 2005 is simply 1997 plus eight years.
24 That is on the second paragraph of page 2, page 3, I
25 guess, where we have Case B. Case B addresses the

1 following question and then the following paragraph
2 explains that, where the date 2005 comes from.

3 Q. Mr. Dalziel, let's just take a brief
4 diversion here.

5 Could you turn to Exhibit 646, page D
6 1-1. Do you have that?

7 A. Yes.

8 Q. As I understand it, this tells us how
9 you plan to meet the upper load forecast if you don't
10 get approvals to do that today; correct?

11 A. It was illustrative of that.

12 Q. This is the best you can tell us
13 about how you would do it as we sit here today; is it
14 not?

15 A. This is the one that we formulated
16 for meeting that upper load forecast.

17 Q. I take it I am entitled to assume
18 this is the best way you have conceived of how to do it
19 at this time?

20 A. I don't know if it's the best.

21 Q. It's the only one you have?

22 A. It's the only one we have.

23 Q. All right. Good enough.

24 Now let's turnover to page D1-3.

25 Are you with me?

1 [3:29 p.m.]

2 A. Yes.

3 Q. All right. That little table gives
4 us the dates when you would expect to see those
5 facilities in service under this scenario; correct?

6 A. Yes.

7 Q. And there you have the in-service
8 date for the IGCC at 2006; correct?

9 A. Yes.

10 Q. As opposed to the 2005 which you use
11 in Case B in 452D?

12 A. Yes.

13 Q. All right. If page D1-3 represents
14 your only attempt at calculating the in-service date of
15 the IGCC under that scenario, why haven't you used that
16 same date in Case B?

17 A. Case B is not a plan that was
18 formulated, whereas what we are looking at in D1, the
19 whole attachment D is a plan that was formulated to the
20 upper load forecast.

21 Q. Yes.

22 A. Case B was simply looking at the cost
23 penalty of having to start major supply approval in
24 1997 instead of earlier, and it is looking at that cost
25 penalty for the first IGCC station.

1 Q. Well, the purpose of 452D, Mr.
2 Dalziel, was to give us your best estimate of the costs
3 of this planning dilemma, was it not?

4 A. The purpose of 452D was to get a
5 handle as to whether there were any significant
6 differences in terms of expected costs of over-planning
7 or under-planning.

8 Q. And what you are telling me is you
9 did not use for the purpose of that analysis the one
10 plan you had gone to the trouble of preparing to
11 illustrate how you can meet the upper load?

12 A. That's right.

13 Q. Why not? Why would you use something
14 other than the one plan you have prepared to meet upper
15 load when telling us the costs of meeting upper load?

16 A. Because at the time that we did the
17 Exhibit 452D analysis we had not formulated this, the
18 upper load forecast case in Exhibit 646, attachment D.

19 Q. So the analysis we see at page D1-1
20 to D1-3, sorry, that comes after 452D or before?

21 A. After.

22 Q. Now, the page D1-1 is dated April
23 28th, 1992. Is that when the analysis was performed?

24 A. The analysis was performed earlier
25 than that, but this is at the time that the

1 documentation for this case was complete.

2 Q. Would you agree with me that for
3 present purposes, Mr. Dalziel, it would be appropriate,
4 then, to substitute 2006 as the most reasonable
5 in-service date for the IGCC under Case B?

6 A. Yes.

7 Q. All right. And we are agreed, are
8 we, Mr. Dalziel, that under Case B the in-service date
9 for the CANDU would be 2010 looking back at page D1-3?

10 A. Yes.

11 Q. All right. So when you recalculate
12 this to include the costs of not having the CANDU
13 available, Mr. Dalziel, will you please use 2006 as the
14 in-service date for the IGCC under Case B and 2010 as
15 the in-service date for the CANDU under Case B?

16 A. Yes.

17 Q. All right. And would you also be
18 sure, please, to identify for us the derivation of the
19 cost you used to compare to the CANDU?

20 A. Yes.

21 Q. Be sure to tell us whether it is a
22 specific facility or the system cost, whatever, it is
23 that you use?

24 A. Yes.

25 THE CHAIRMAN: That is undertaking

1 683...?

2 THE REGISTRAR: 684.3.

3 THE CHAIRMAN: 684.3?

4 ---UNDERTAKING NO. 684.3: Ontario Hydro undertakes to
5 recalculate costs under Case B of
6 Exhibit 452D using dates contained
on page 42 of Exhibit 685.

7 MR. MARK: Q. Now, staying with the same
8 document for a few moments, Mr. Dalziel --

9 Mr. Chairman, perhaps this is a good
10 time. I had prepared a compilation of a few documents
11 I intend to refer to in cross-examination. This is the
12 first occasion, and perhaps I might file it and have it
13 marked as an exhibit at this time.

14 THE CHAIRMAN: Has the panel got it?

15 MR. MARK: It will shortly.

16 THE CHAIRMAN: I mean, this panel over
17 here, on my right.

18 MR. MARK: Yes, they have had it since
19 this morning.

20 I had made other copies available for the
21 audience, Mr. Chairman. They were snatched up long
22 ago. There are no more, I'm afraid.

23 THE CHAIRMAN: This will be made an
24 exhibit? Should it be, I am asking, Mr. Mark?

25 MR. MARK: It is probably a good idea. I

1 am always unsure on these.

2 THE CHAIRMAN: When in doubt we seem to
3 make them exhibits.

4 THE REGISTRAR: 685.

5 MR. MARK: Not a practice I am used to,
6 Mr. Chairman.

7 THE CHAIRMAN: Neither am I, but you
8 learn a lot of new things here. [Laughter]

9 ---EXHIBIT NO. 685: Reference Material to be Used in
10 MEA Panel 10 Cross-Examination.

11 MR. MARK: Q. Perhaps we will just go
12 back a step, Mr. Dalziel. I should have done this
13 earlier. I apologize.

14 If you look at the very last page of this
15 bundle, page 46, this is reflective of the discussion
16 we had a few moments ago, is it, of the in-service
17 dates of these options?

18 MR. DALZIEL: A. The top set appear to
19 be. I am not sure what the bottom ones -- the
20 difference.

21 Q. Well, the bottom, those are the
22 dates, Mr. Dalziel, taken from Case A; in other words,
23 the dates these options would be in service if you
24 obtained the approvals today.

25 A. Oh, I see. Yes.

1 Q. So looking at this what we see is the
2 additional costs come firstly in the period starting at
3 2001 where you don't have the IGCC you would have under
4 the bottom case. So you run the CTU for those years;
5 correct?

6 A. Yes.

7 Q. And those are the costs that you have
8 estimated in the Case B in 452D?

9 A. Yes.

10 Q. Correct? And the additional part
11 that we have asked you to do now, if you refer to the
12 bottom line, the 2005 is when the CANDU would have been
13 in service if you had the approvals today; right?

14 A. Yes.

15 Q. And looking up top, 2010 is where you
16 get the CANDU in service if you don't get the approvals
17 today?

18 A. Yes.

19 Q. And so what you have got is the costs
20 from the years 2005 to 2010 of meeting the CANDU supply
21 with some other source of supply; correct?

22 A. That's right.

23 Q. And it is that cost for those five
24 years that you omitted from Case B?

25 A. You want to us pick those up?

1 Q. That's right.

2 A. Okay.

3 Q. Now, Mr. Dalziel, I want to turn to
4 another aspect of 452.

5 THE CHAIRMAN: I thought we were going to
6 take the break. Didn't you say that?

7 MR. MARK: That's fine.

8 THE CHAIRMAN: I thought you said that.
9 Did I just imagine that?

10 MRS. FORMUSA: No, I heard it.

11 MR. MARK: No, I was talking about an
12 appropriate time to put it as an exhibit. I don't
13 recall asking for a break, but this is as good a time.

14 THE CHAIRMAN: Maybe it is just wishful
15 thinking on my part.

16 MR. MARK: No offence taken, Mr.
17 Chairman.

18 THE REGISTRAR: Please come to order.

19 ---Recess at 3:38 p.m.

20 ---On resuming at 3:56 p.m.

21 THE REGISTRAR: Please come to order.
22 This hearing is again in session. Be seated, please.

23 THE CHAIRMAN: We must stop tonight at
24 ten to five.

25 MR. MARK: Q. Now, Mr. Dalziel, we spent

1 the past several minutes dealing with Case B; that is,
2 the costs of under-planning, and you have given the
3 undertaking to calculate those additional costs that
4 were not included.

5 Let's go over, please, to Case A which
6 are what you say is the cost of over-planning.

7 Now, as I understand it, Mr. Dalziel,
8 what you have done in arriving at the \$100 million
9 figure is you have taken the \$200 million present value
10 and assumed there is a 50 per cent chance that you will
11 fully utilize the benefit of those expenditures and a
12 50 per cent chance that you will lose all the benefit
13 of those expenditures and just taken the 50 per cent
14 number, which is 100 million; correct?

15 MR. DALZIEL: A. Yes.

16 Q. Let me suggest to you, Mr. Dalziel,
17 that to get a proper reflection of these costs and the
18 value of them to you, what you ought to do is look at
19 the probabilities of the various load growth scenarios.

20 A. That would improve the evaluation.
21 Obviously, the more load forecasts you look at the more
22 it would improve. Essentially, what we have looked at
23 here is what if it is above the median, what if it is
24 below the median.

25 Q. What I am suggesting to you, Mr.

1 Dalziel, is that it is not quite as simple, that if you
2 are above the median you lose -- you recoup your
3 investment, and if you are below the median you lose
4 your investment. There are various gradations in
5 there, are there not?

6 A. That's right. This is a first
7 approximation, and I said if you look at more load
8 forecasts you would improve the resolution of that
9 evaluation.

10 Q. Even if you just used a median, upper
11 and lower it is not simply a matter of 50 per cent; you
12 must look at the probabilities of reaching the upper,
13 reaching the median, and reaching the lower before you
14 can really do a proper weighted assessment of what
15 return, if any, you will get from that investment;
16 correct?

17 A. Yes.

18 Q. All right. Now, in the package I
19 have given you, Exhibit 685, Mr. Dalziel, could you
20 turn to page 45, which is the second last page.

21 Do you have that?

22 A. Yes.

23 Q. All right. What you will see, Mr.
24 Dalziel, is this is what I suggest an appropriate
25 recalculation of those numbers. Starting with that

1 little tree in the middle, would you agree with me that
2 those are the appropriate probabilities for those three
3 load growth scenarios?

4 A. They are typical of what we have
5 used.

6 Q. Right. And would you agree with me
7 that at the upper, as this indicates, you in fact cash
8 in on your investment and you have no penalty for
9 obtaining the approvals today?

10 A. Yes.

11 Q. And conversely, if you are at the
12 lower and you never have to use those facilities, you
13 lose your \$200 million investment?

14 A. Yes.

15 Q. And if you are at the median what
16 happens is you have incurred those costs earlier than
17 necessary, and that has a value as suggested there?

18 A. That is what I am not understanding.
19 Perhaps you could take me through that.

20 Q. I am suggesting to you, Mr. Dalziel,
21 that if you are going to need these facilities in any
22 event on the median load growth, then the cost to you
23 of obtaining the approvals and starting definition work
24 earlier is that you simply incur the costs earlier.

25 A. I understand that.

1 Q. Right.

2 A. I don't understand the calculation.

3 Q. That is the time value of money. And
4 if you look at the first calculation below the tree,
5 that is - you can take a moment to look at it - is that
6 of a proper present value definition of those
7 expenditures.

8 A. Well, what I am wanting to understand
9 is how you are discounting the \$200 million value. I
10 can see the calculation, but I am not sure I'm clear of
11 what it represents.

12 Q. Well, just discounting the
13 expenditure four years, four years being the time
14 delay.

15 A. So you are assuming that you would be
16 spending all of your definition phase expenditures four
17 years later?

18 Q. That's right.

19 A. All right.

20 Q. And is that clear now, Mr. Dalziel?

21 A. I think I understand that.

22 Q. All right. And just so the record is
23 clear -- and that calculation used an average discount,
24 a corporate discount rate for the mid-90s. Does that
25 seem about right to you?

1 A. As a discount rate that is generally
2 appropriate, but my -- if you are using the \$200
3 million that had come from Exhibit 452D, that was the
4 present value.

5 Q. Yes, but now we are talking about the
6 time --

7 A. So it would be more appropriate to
8 discount that at a real discount rate, not a corporate
9 financial discount rate.

10 Q. We may come back to that in a minute,
11 then. Just assume with me for the present time that we
12 will use the corporate discount rate, then does this
13 calculation as it is set out represent an appropriate
14 approximation of the penalty cost?

15 A. If you delayed the expenditures, all
16 the expenditures by four years?

17 Q. Yes.

18 A. Yes.

19 Q. Then at the bottom what we see is
20 when you take the weightings from the forecast, the 20
21 per cent, 60 per cent, and 20 per cent, you get -- on
22 this more refined analysis compared to your \$100
23 million figure, you get a figure of \$82 million.

24 A. Yes.

25 Q. Would you accept that as a more

1 refined assessment of the number that would be
2 appropriate to consider as the penalty cost as you
3 endeavour to represent it in Case A?

4 A. Yes.

5 Q. All right. Now, you say, Mr.
6 Dalziel, if I understand you correctly, that in fact we
7 should be using a real discount rate instead of the
8 corporate discount rate?

9 A. Yes.

10 Q. I will just be a moment.

11 Mr. Chairman, I apologize. This wasn't
12 in the package. It was only developed over the lunch
13 hour. We can either append it or give a separate
14 exhibit number.

15 THE CHAIRMAN: Why don't we make it page
16 47 of Exhibit 685.

17 MR. MARK: Q. Mr. Dalziel, have you had
18 a chance to peruse this?

19 MR. DALZIEL: A. Yes.

20 Q. And you will see what we have done
21 here, Mr. Dalziel, because the same thought occurred to
22 us, quite recently, that using the real discount rate
23 rather than the corporate rate, am I correct that
24 rather than the \$100 million penalty for over-planning,
25 as you have calculated it, the more appropriate number

1 is \$61 million?

2 A. With this approach, yes.

3 Q. There is nothing wrong with this
4 approach, is there?

5 A. One qualification I might put in is
6 that you are still assuming that under median load
7 forecast that all of the approvals could still be used.
8 And that may be the case, but it may also be the case
9 that the length of time that has passed between when
10 the approvals are first received and when they are
11 utilized may have been too long, too much time has
12 passed, and so you may in fact have to go back and redo
13 those approvals when it actually comes time to look at
14 committing the project.

15 Q. Subject to that caveat, this
16 calculation seems appropriate?

17 A. Yes.

18 Q. So assuming that is a correct number
19 with me for the moment, Mr. Dalziel, then even as you
20 have calculated it, before we add back the -- add the
21 additional costs in Case B the comparison is now \$61
22 million is the penalty for over-planning versus
23 something more than the \$70 million you had for the
24 under-planning?

25 A. Yes. On the basis of this, that's

1 correct.

2 Q. Would it be a fair assumption, Mr.
3 Dalziel, that the bulk of these costs, the approval
4 costs that you set out here, are associated with the
5 IGCC and the CANDU?

6 A. Yes, that's correct.

7 Q. And under the median scenario the
8 in-service dates are indeed four years apart between
9 what they would be under Case A and Case B?

10 [4:10 p.m.]

11 A. I think generally that's correct.

12 Q. So, again, Mr. Dalziel, just wrapping
13 this up, assuming the \$61 million figure to be
14 accurate, in fact, what we have is a 180 degree
15 turnaround in the relative costs of over and
16 under-planning compared with the way you calculated it
17 initially?

18 A. I wouldn't describe it as a 180
19 degree turnaround. Certainly the result is different
20 and this is now showing that the relative ranking, if
21 you were to rank these, has reversed.

22 Q. That's right.

23 A. The purpose of this analysis was not
24 to determine whether the differences were \$9 million or
25 whether they were \$10 million, it was to get a handle

1 as to whether there were significant differences in
2 cost between the two approaches.

3 Q. And if so which one was more
4 expensive than the other?

5 A. Well, the conclusion that we arrived
6 at was that costs -- and that comes back to what was in
7 Exhibit 452, I think it is more or less stated at the
8 end of Exhibit 452D. No, I would actually want to go
9 back to 452 page 21 or 22. This is a point you were
10 questioning on earlier, page 21, the bottom paragraph
11 of Exhibit 542.

12 Q. Yes?

13 A. The above analysis suggests that
14 costs, reliability an environmental
15 considerations do not lead to a clear
16 choice on the planning approach.

17 Q. So would it still be your evidence
18 today, Mr. Dalziel, that if we have the cost of
19 over-planning at \$61 million, and let's say we have a
20 cost of under-planning take roughly \$20 million more
21 expensive, you consider that to be not material to the
22 analysis?

23 A. Based on our earlier finding, I would
24 say yes, because it is not a clear choice on the basis
25 of costs.

1 Q. Would you agree with me, though, on
2 the basis of this calculation there certainly doesn't
3 appear to be any penalty for over-planning?

4 A. On the information you have provided,
5 yes.

6 Q. Mr. Snelson, let me turn back to you,
7 if I may, for a few moments, and I want to discuss for
8 a while some of the background to the original
9 Demand/Supply Plan. I want to discuss firstly, Mr.
10 Snelson, something of the chronology.

11 Am I correct in understanding that the
12 first thing the corporation undertook once it decided
13 to embark upon this planning exercise was to develop
14 the demand/supply planning strategy?

15 MR. SNELSON: A. No. The demand/supply
16 option study preceded the demand/supply planning study.

17 Q. That's where you identified the
18 options that could be considered in an expansion plan?

19 A. Yes, and their characteristics and
20 their public acceptability.

21 Q. And from there you moved to the
22 formulation of the planning strategy?

23 A. That's correct.

24 Q. And am I correct that the development
25 and public review and corporate adoption of that

1 strategy preceded selection of the plans to be
2 considered?

3 A. The public review was of a draft
4 strategy, and that preceded....

5 Q. Preceded your selection of the plans
6 of the cases to be considered?

7 A. That is correct.

8 Q. And the corporate adoption of the
9 strategy preceded the selection of the cases to be
10 considered?

11 A. Yes.

12 Q. And would it be fair to say the
13 strategy was formulated to have, shall we say, a
14 generic application in the sense that it wasn't
15 formulated with any particular load forecast in mind?

16 A. It was intended to have a fairly
17 long-term application, yes.

18 Q. And once the strategy was in place,
19 Mr. Snelson, as I understand it, the next thing you did
20 was develop literally dozens of cases for you to
21 analyze and assess with reference to the strategy?

22 A. Yes, in the process of formulating
23 the plan dozens of cases were looked at.

24 Q. And as I understand it, you then
25 moved through four phases of your work, four iterations

1 of the process by which you narrowed down these cases
2 to the candidate plans?

3 A. I am not quite sure how you have
4 allocated the four phases.

5 Q. I got that, Mr. Snelson, from Exhibit
6 6, which is the plan analysis, in particular, starting
7 at page 4-2.

8 A. Yes, I have that.

9 Q. And as I look, scan across pages 4-2
10 through 4-7, you talk explicitly about four phases of
11 the selection of the plans.

12 A. I see that, and it's quite a long
13 while back and I am trying to refresh my memory as to
14 what was the definition of the four phases, but it
15 obviously was divided into four phases.

16 Q. As a general characterization is it
17 fair to say that you went through a series of
18 iterations through which you narrowed down the dozens
19 of cases to the three candidate plans put forward?

20 A. Yes, in a generic way.

21 Q. And is most of the data that you
22 relied upon during that process in coming to your final
23 recommendations the data which we find compiled in
24 Exhibit 6?

25 A. Yes, I believe so.

1 Q. Now, turning for a moment to the
2 Update. I take it that at some time, Mr. Snelson, you
3 were asked to prepare an updated plan in response to
4 changed circumstances; is that correct?

5 A. The planning groups within the
6 Corporation were asked to do so, yes.

7 Q. And you developed, as I understood
8 your evidence in chief, six candidate plans to be
9 assessed?

10 A. We had six plans in the Plan Update
11 document, Exhibit 452.

12 Q. Yes. Had you initially developed a
13 broader range of cases for consideration?

14 A. Mr. Dalziel in his direct evidence
15 discussed some consideration of planning questions
16 which involved some case work.

17 Q. I agree. As I understood Mr.
18 Dalziel's evidence - Mr. Dalziel, I will be fair, I
19 will turn to you in discussing it - as I understood
20 your evidence you formulated a series of I believe it
21 was six questions, you considered the appropriate
22 responses to those questions and then you formulated
23 the six cases that we now have before us and discussed
24 in the Update evidence.

25 MR. DALZIEL: A. Yes.

1 Q. I take it from that that there was no
2 broader range of cases which you initially formulated?

3 A. No. In that we were starting from
4 what we had already done behind us, and that is all the
5 cases behind the original 1989 Demand/Supply Plan.

6 Q. So the process you went through in
7 the Update was to consider those six cases you
8 discussed with Mr. Campbell the other day, and then
9 you went immediately to the step of formulating the six
10 plans that we have before us?

11 A. Essentially that's right.

12 Q. And of course, Mr. Dalziel, none of
13 those six cases which are before us today contemplates
14 approvals necessary to meet the upper forecast?

15 A. There are approvals that provide a
16 substantial coverage of the upper load forecast out to
17 the year 2000 and a little bit beyond. But beyond
18 that, and I guess you are referring to major supply
19 facilities--

20 Q. Yes.

21 A. --you are correct.

22 Q. So, you never went through a process
23 whereby you compared plans which included major supply
24 approvals with plans which did not include major supply
25 approvals?

1 A. In the Update cases in Exhibit 452?

2 Q. Yes.

3 A. That's right.

4 Q. So the data that we have before us
5 today, then in 452 and 452A, et cetera, allows us to
6 make some comparisons as between the six cases you have
7 presented but doesn't allow us to make any comparisons
8 with any other cases particularly ones which might have
9 included approvals today for major new supply
10 additions?

11 A. Yes.

12 Q. Am I correct in taking from what you
13 have said in the last few moments, Mr. Dalziel, that
14 when you were asked to prepare some candidate plans you
15 were instructed that they were not to include any
16 requests for major new supply approvals?

17 A. No.

18 Q. And where and by whom was that
19 decision made?

20 A. Which decision?

21 Q. The decision that the plans to be put
22 forward would not contain any request for approval for
23 major new supply facilities?

24 A. That decision is described in the
25 Exhibit 542.

1 Q. I understand the rationale in the
2 description of the reasons. I am more interested when
3 that decision was made and by whom that decision was
4 made.

5 A. The Update cases were presented to do
6 our board of directors.

7 Q. Yes.

8 A. And our board of directors approved
9 of the Update cases.

10 Q. You prepared six plans, none of which
11 contained within them requests for approvals for major
12 new supply facilities. I trust that was a conscious
13 decision. A pretty fundamental decision was made at
14 some point about that issue, was it not?

15 MR. SHALABY: A. That was the conclusion
16 of the analysis, not an input to the analysis.

17 Q. And that analysis is the analysis
18 contained where, Section 9 of Exhibit 452?

19 A. The results of 452 show the need
20 dates and show when major supply facilities would be
21 required. And as a conclusion to all that, the
22 decision was made not to proceed with requesting
23 approvals.

24 The point I am making is that was not an
25 input to the analysis; that was a conclusion of the

1 analysis. That's all.

2 Q. And my question is: Who made that
3 conclusion? Who made the decision that the change in
4 planning approach was appropriate?

5 A. I think I described in detail the
6 planning process that we would go through in my direct
7 evidence. That is working level groups, senior
8 management for of within the company, board of
9 directors, and iterations within that hierarchy, if you
10 wish to say it that way.

11 Q. I take that the board of directors
12 only got involved in this any material way when they
13 were presented with the Update in pretty much its final
14 form.

15 A. They have had comments to make and
16 they were incorporated in Exhibit 452.

17 Q. But they were first presented with it
18 very near the end of the piece. Certainly after the
19 decision had been made to go with the planning around
20 the median approach.

21 A. Well, the chairman of the board of
22 directors is somebody who has been involved in this
23 process for a much larger than just the final process.

24 Q. I am sure the chairman was. No doubt
25 about it. But he is not the board of directors.

1 As I understand it, correct me if I am
2 wrong, the decision to go with the six cases or to
3 presents six cases, none of which had the approvals for
4 major new supplies within them was made before any
5 presentation was ever made to the full board of
6 directors.

7 MR. DALZIEL: A. That's correct.

8 Q. And I am just trying to find out when
9 in this process the decision was made, and I take it it
10 was made before you developed the six plans.

11 MR. SHALABY: A. No, I repeat. The six
12 plans were developed and when people looked at the six
13 plans, how do we implement some of these plans, and the
14 choice was made at that time. If You can implement
15 them with approvals, you can implement them without
16 approvals. And the preference was given to trying to
17 implement them without requesting all the approvals.

18 Q. But I thought these are cases that
19 don't have approvals in them.

20 A. Maybe we are speaking about cases in
21 a different understanding.

22 The cases as we talk about them are
23 computer runs that shows financial impacts, that show
24 environmental, natural environmental impacts, that show
25 costs, that show dates for facilities. All of that

1 doesn't immediately show that there are approvals
2 necessary or not.

3 Q. Well surely the result --

4 A. They show what facilities could meet
5 the demand or the long-term.

6 Q. Well, before you selected particular
7 plans or decided on the six plans, did you run your
8 LMSTM, for example, with them under a variety of
9 scenarios and analyze the results?

10 A. Yes.

11 Q. And did any of those runs that you
12 did include the scenario where you would get approvals
13 today for the major new supply facilities?

14 MR. DALZIEL: A. At the time of
15 considering those planning questions that I spoke to,
16 that is before we developed the six cases in the
17 update, for some of those consideration of upper load
18 forecast and lower load forecast was also looked at.

19 Q. So do I take it from that, Mr.
20 Dalziel, that before you subjected these plans to the
21 LMSTM runs and similar analysis, the decision had made
22 that they would not include requests for approvals for
23 the major new supply facilities?

24 A. No. Let me backup.

25 The planning questions that I spoke to in

1 my direct evidence, those were essentially questions or
2 partial cases that we -- questions that we put to
3 ourselves and set out to examine. We examined them to
4 varying degrees that we felt was necessary or needed to
5 draw out some of the main conclusions or details that
6 we thought we could extract out of those cases.

7 And the result of looking at that was
8 done at a working groups level, that effort was carried
9 out at a working group level and the results of these
10 planning questions were being reviewed by management as
11 the work was proceeding.

12 And again, I would like to go back to the
13 projected surplus as being seen as a significant and
14 substantial change from the situation that we had in
15 1989. And again, I believe I just described those
16 significant changes in my direct evidence.

17 Then as a result of examining the six
18 planning questions and looking at the potential
19 surplus, the degree and the magnitude of that potential
20 surplus, and the fact then that major new supply under
21 median load forecast was pushed out to about the year
22 2010, it was recognized that a decision on new major
23 supply is not needed at this time. That was the
24 decision of management at the time.

25 That was also at the time as described in

1 Exhibit 452 that the approach of managing uncertainty
2 by planning around the median was put forward and the
3 six cases of Exhibit 452 were then put together.

4 [4:30 p.m.]

5 Q. All right. So that decision about
6 planning around the median as opposed to planning to
7 the upper was made before you started the task of
8 developing cases which you would then analyse according
9 to your other criteria?

10 A. Which cases?

11 Q. The six cases.

12 A. The six cases of Exhibit 452?

13 Q. That's right.

14 A. Yes.

15 Q. And as I understand from what you
16 told me a few moments ago there were never any other
17 cases developed.

18 A. Well, I said earlier in the planning
19 questions that we looked at, to examine those questions
20 you have to develop some cases.

21 Q. But none of those questions, none of
22 those questions was the one as to whether you should
23 plan around the median or plan to the upper.

24 A. As I think Mr. Shalaby was getting
25 at, that is -- simply by examining the case that is not

1 going to tell you whether you should plan to the upper,
2 or plan to the median, or plan to the lower.

3 A. That is something that comes out of
4 the -- not out of the case or the analysis of the run,
5 but that is a conscious decision on how you ought to
6 conduct your planning.

7 Q. Well, that is the point. I think you
8 and I are in agreement. Before you were even in a
9 position to test any cases with your analytical tools
10 and your models you made the decision to adopt the
11 planning around the median approach?

12 A. Given the changes that had taken
13 place.

14 Q. I understand the reasons. Is it
15 "yes" or "no"?

16 A. "Yes."

17 Q. Now, at what level of management was
18 that decision made?

19 A. I would say several levels of
20 management.

21 Q. Well, where did the buck stop?

22 MR. SNELSON: A. The final decision to
23 accept those cases was made by the board of directors,
24 and so what was proposed --

25 Q. No, but, Mr. Snelson, excuse me,

1 excuse me. We just heard from Mr. Dalziel that a
2 decision was made to plan to the median before you even
3 formulated the six cases, so we have a discreet
4 decision-making function here.

5 A. Okay. That was a decision to prepare
6 cases to present to the board based on planning around
7 the median.

8 Q. Yes.

9 A. All right?

10 Q. Who made that decision?

11 A. Strictly speaking, I don't know. It
12 was a proposal that was made within the groups that
13 were studying it, and it was considered at various
14 levels within management, as Mr. Dalziel has said. I
15 believe it was accepted right up to the top of the
16 Corporation, but where you would say the actual
17 decision was made, hard to say.

18 Q. So word just got back to you somehow
19 that you should formulate plans without the request for
20 approval?

21 A. No, I think that there were proposals
22 that were being made and those proposals were accepted.

23 Q. So the proposals to do it that way,
24 then, emulated from your department?

25 A. They emulated, I believe, from the

1 study group that was working on the Update plan.

2 Q. And who was in that study group?

3 A. Personnel from corporate planning
4 division, system planning division, and from a variety
5 of other groups, including environment division, who
6 were working on the Update.

7 Q. Now, in addition to not formulating
8 any new plans, Mr. Snelson, which contemplated
9 approvals for the major new facilities today, I take it
10 you didn't take Case 15 and reconfigure it to respond
11 to the different load forecasts either.

12 A. We did not create a new plan that was
13 as similar as we could make it to Case 15.

14 Q. So at no time from when you started
15 consideration of a revised plan until you presented 452
16 to this Board did you ever do an analysis using your
17 usual analytical tools, your models of a case with
18 approvals for major new supply facilities or compared
19 to cases without those approvals requested; that has
20 just never been done?

21 MR. DALZIEL: A. As Mr. Snelson said, we
22 didn't take plan 15 and physically try to fit it under
23 today's circumstances. We had changed conditions to do
24 demand management, NUGs, hydraulic, but in many
25 respects the Update nuclear plan under median load

1 forecast bears a lot of resemblance to plan 15.

2 Q. Mr. Dalziel, I appreciate that, but
3 the key point of distinction --

4 A. Now --

5 MR. HOWARD: Let him finish his answer.

6 THE CHAIRMAN: Just a minute. Allow Mr.
7 Dalziel to finish first. Then you can...

8 MR. DALZIEL: The major supply component
9 in the Update nuclear case, and for that matter the
10 Update fossil case, begins for the year 2010.

11 Those facilities as shown in attachment C
12 of Exhibit 646 show major supply facilities coming in
13 for the winter 1990 -- sorry, the winter 2009/2010,
14 and, as we have been over this morning, backing up from
15 that time period approvals for those facilities under
16 median load forecast are not required.

17 So it is not a matter that the case tells
18 you that you look at a case that requires you to have
19 major supply approvals. To formulate the case then you
20 ask yourself: What do I need to act on right now? And
21 under median load forecast, and again given the
22 circumstances of the projected surplus, we were looking
23 at that at the working group level and at various
24 levels within Ontario Hydro's management and coming to
25 the conclusion that we would like to manage uncertainty

1 by planning around the median.

2 That is why we have the six cases for
3 median load forecast in Exhibit 452.

4 MR. MARK: Q. I understand that, Mr.
5 Dalziel. Let me try it this way.

6 The decision not to seek approvals today
7 for major new supply facilities to meet the upper load
8 forecast is not something that falls automatically from
9 the new plans you constructed; correct? Somebody still
10 had to make a policy decision: Are we going to
11 jettison planning to the upper or not?

12 MR. DALZIEL: A. Yes, that's correct.

13 Q. All right. And once you have made
14 that decision you will agree with me that it does have
15 some practical operating consequences for the plan you
16 select; it responds differently to different load
17 growth scenarios, depending on whether you have the
18 approvals today or not?

19 A. That's correct.

20 Q. All right. And as I understand your
21 evidence, at no time did you model the case with
22 approvals today and compare it using LMSTM and the ram
23 model and whatever else you use to the outputs from
24 applying the same models to a "no approvals" case?

25 A. That's right.

1 Q. So to the extent one may want to look
2 at some of those empirical measures such as costs, such
3 as reliability, you simply have never done the analysis
4 that permits us to do that, comparing the two types of
5 cases; correct?

6 A. Correct.

7 Q. It was possible to do, was it not?

8 A. Any case would be possible to
9 formulate.

10 Q. Nor have you modelled, as I
11 understand it, any of the six cases you in the result
12 put forward on a "with approval" for major new supply
13 and "without approval" for major new supply scenario?

14 A. I am not clear how that...

15 Q. Well, we have already established
16 that before you presented these six plans for final
17 consideration you never compared them to any other plan
18 which had planning to the upper; right?

19 A. Right.

20 Q. So then you selected these plans, and
21 since then you haven't modelled these plans on a
22 planning to the upper or planning to the median basis.
23 You haven't gone back and looked at what your results
24 would be from your analytical models if you got the
25 approvals for the major new supply facilities today?

1 A. That's right.

2 Q. And that, of course, was also
3 possible to do?

4 A. Yes.

5 Q. And I take it the decision, it was a
6 decision not to do it; there was no other impediment to
7 your doing so; was there?

8 A. That's correct.

9 Q. Let's talk for a little bit, Mr.
10 Dalziel, about the development of the six cases that
11 you did put forward.

12 Were there a series of iterations of
13 these cases through some analytical process and by
14 which they were refined?

15 A. The six cases for Exhibit 452?

16 Q. Yes.

17 A. No significant iterations. In other
18 words, from the planning questions we moved right into
19 developing those six cases.

20 Q. So you didn't have some model whereby
21 you iterated it a few times until you got the final
22 plans?

23 A. The Update cases for which we have
24 been providing the data I think theoretically are a
25 revision 4, but in going from revision 1 to 2 to 3,

1 what I said earlier, there is no significant changes.

2 That is what I mean. There is no significant changes.

3 There is always a bit of fiddling or
4 improvements that the planners are making when they
5 develop a case. So the six Update cases that are in
6 Exhibit 452, while they are a fourth revision they
7 are -- no substantial differences between when they
8 were first defined and the way they are currently
9 defined.

10 Q. Now, you spoke of four revisions, and
11 maybe I missed some of your evidence before. Where
12 were the first three? I'm not sure I follow that.

13 A. Well, just give you an example, which
14 can be the difference between a case, and this is
15 perhaps getting a little bit detailed, but in one of
16 the final revisions the -- the way Lakeview was
17 modelled within LMSTM was changed to improve the
18 modelling of acid gas emissions.

19 So that in itself would define moving
20 from revision 1 to revision 2, for example, or version
21 1 to version 2. That is not a material difference to
22 the definition or the nature of the plan.

23 Q. So in the material respects the first
24 six cases you formulated after you addressed the six
25 planning questions are what we have before us today?

1 A. That's correct.

2 Q. Mr. Dalziel, am I correct that one of
3 the major analytical tools you used in developing the
4 Demand/Supply Plan in its initial version was the risk
5 assessment model?

6 A. We used that model to assess the 1989
7 demand/supply plans.

8 Q. So the answer is "yes"?

9 A. Yes.

10 Q. And the ram model, as I understand
11 it, serves a number of functions, one of which is that
12 it is the model by which you determined the costs of
13 your plans?

14 A. Yes.

15 Q. And another purpose it serves is to
16 determine the sensitivities of your plans?

17 A. Yes.

18 Q. And another purpose it serves is to
19 allow you to do probabilistic scenarios, probabilistic
20 assessments of your plans?

21 A. You can do a probabilistic assessment
22 of costs, yes.

23 Q. And am I correct, Mr. Dalziel, that
24 you did not use that model in connection with the
25 preparation of the Update?

1 A. That's right.

2 Q. Now, Mr. Dalziel, if you could turn
3 with me, please, to chapter 8 of Exhibit 6.

4 THE CHAIRMAN: Are you getting into a new
5 area?

6 MR. MARK: It is going to be a lengthy
7 continuation. This would probably be --

8 THE CHAIRMAN: Probably better to stop
9 now?

10 MR. MARK: Better stop now.

11 THE CHAIRMAN: Well, why don't we stop
12 now and start again tomorrow at ten o'clock.

13 THE REGISTRAR: Please come to order.
14 This hearing is adjourned until ten o'clock tomorrow
15 morning.

16 ---Whereupon the hearing was adjourned at 4:46 p.m. to
17 be reconvened at ten o'clock, Tuesday, May 26th,
18 1992 at 10:00 a.m.

19
20
21
22
23
24
25 JAS/RR [c. copyright 1985]



E R R A T A
and
C H A N G E S

To: Volume 56

Date: Wednesday, September 11th, 1991.

<u>Page No.</u>	<u>Line No.</u>	<u>Discrepancy</u>
(iv), 10032		Exhibit No. 261.37 s/r: Interrogatory No. 4.6.19.

Volume 57:

(iv), 10142	Exhibit No. 261.38 s/r: Interrogatory No. 4.24.6.
-------------	--

Volume 144:

(v), 25279	Exhibit 669, description s/r: Excerpts from the Collins Report, the Clarke Study, Joint Review by Station Manager (Bruce) and Union Stewards, and the Hare Commission Inquiry.
------------	--

3 1761 11468123 2

